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ABSTRACT

Designed to provide a forum for faculty and staff in the Maricopa Community College District to exchange information about effective teaching methods for practical application and intellectual stimulation, this journal publishes articles on teaching, learning, and classroom research activities. The two issues in this volume contain the following articles: (1) "Putting Value in Evaluation: A Review of the Research," by Susan Starrfield; (2) "Collaborative Learning: Confronting the Lip Service," by Julie Ann Wambach; (3) "Want to Add Some Adrenalin to a (Yawn) Essay-Writing Class?" by William Butler; (4) "Effective Learning Strategies in a Jazz History Course and Their Possible Application to Other Subject Areas," by Antonio Blasi; (5) "Point of View: Critical Thinking," by Mike Morgan, Anna Solley, Roy Amrein, and Ann Mahoney; (6) "Using the Learning Cycle to Teach Biology Concepts and Basic Skills," by W. Bradley Kincaid; (7) "Setting the Tone: Creating and Maintaining a Supportive Environment with the Adult Learner," by Rene Diaz-Lefebvre; (8) "Local Resources on Critical Thinking: A Selected, Annotated Bibliography," by Jill R. Seymour; (9) "An Accelerated Approach to Accounting Basics," by Bernadine McCollum; (10) "'Why' Affects 'How': Student Motivations and Literacy," by Virginia V. Stahl; (11) "The Electronic Forum: Linking Students to Their Future," by Cyndi Greening; (12) "Writing for Reality: How to Coax Writing Out of the Classroom," by Linda Evans; (13) "Point of View: Teaching Ethics," by Roy C. Amrein, Harvey Turner, and Edd Welsh; and (14) "Increasing the Effectiveness of Part-Time Faculty," by John Lampignano. (PAA)

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Richard F. Malena Ed.

Maricopa Community College District. Phoenix, Arizona

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Statement of Purpose

VISION '90: The Maricopa Community Colleges Journal of Teaching and Learning provides a forum for faculty and staff to exchange information about effective teaching and learning strategies. We encourage faculty and staff to submit articles on teaching, learning, and classroom research including those describing programs, projects, and research activities across the curriculum at the community college level. Articles may be research based or derived from practical experience in the classroom. The language of all articles should be accessible to faculty outside of the author's discipline.

Articles are either accepted, accepted with revisions, or not accepted based on the relevance of their content and style to the journal's statement of purpose. For information on manuscript requirements write the editor at:

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INTRODUCTION

Linda B. Rosenthal

Critical thinking and problem solving skills have now, as I understand it, been identified as two of those skills determined to be as basic as the "3 R's" — reading, 'riting and 'rithmetic. Therefore, one could argue very convincingly that they must be taught in our classrooms as a part of our curriculum.

The mission of our community colleges is very clear. No matter how one looks at it, we are the best public institution to deal with the educational needs of adults. We cannot expect these adults to return to elementary or high school buildings to learn what they missed either through their own fault or someone else's. We cannot expect them to benefit from a philosophy or history course unless they have the basic skills to apply to their studies. If people think the community college is not the place to teach these skills, they are only fooling themselves. It is, I believe, a vital part of our mission as it responds to an adult educational need. How long and how much we will need to provide will depend on many factors which we may not be able to control — but teach basic skills we must.

Having said that teaching these skills is a necessary part of our curriculum, I would ask the experts — our faculty — to accomplish it. I would hope that our instructional program and services will be altered where necessary to achieve the desired outcome. Only through constant and continuous modifications of our courses and programs will we be effective in responding to our constituents. We will then be truly the educational institution that knows its mission and does its very best to accomplish it for its community.

Linda B. Rosenthal, BS, MA, is a member of the Maricopa Community Colleges Governing Board.

Letter to the Editor

Dear Dr. Malena:

Recently I saw a copy of *Vision '89*. Since my husband taught at Phoenix College in the English Department in the early '60s and since I attended PC and earned my BA and MA from Arizona State University, I read the magazine with care. I enjoyed it. I saw the segment on "Point of View" and asked Mary Phillips to write up her area of responsibility—she had a 96% retention rate in the fall semester.

Enclosed is a write-up from our college that I hope your readers might enjoy.

Nancy Sandberg, EdD
Dean of Instruction and Student Development
Paul D. Camp Community College
Franklin, Virginia

Definition of At-Risk-Student

At-risk students at Paul D. Camp Community College face complex obstacles which make persistence to graduation difficult. Their obstacles usually include:

1. Few external reinforcements for college plans.
2. Income less than $5,000 per year.
3. Being academically underprepared.
4. Needing child care.
5. Being a single parent.
6. Needing assistance with transportation to classes.
7. Being a first-generation college student.

Needs of At-Risk Students:

At-risk students at PDCCC typically need financial assistance, remedial instruction, strong support for their college plans, a thorough explanation of non-academic procedures, counseling in realistic self-appraisal and goal-setting and assistance with developing a positive self-concept.

College Strategies for Helping At-Risk Students:

PDCCC has a strong institutional commitment to helping **ALL** students succeed. The faculty and staff are particularly sensitive to the unique challenges at-risk students face. In response to those challenges, the college has aggressively initiated a number of programs which help at-risk students. Strategies to help at-risk students include: a college-wide mentoring program, pre-developmental classes to help lower-functioning students receive specialized instruction, flexibility in scheduling of classes for working parents, Gender Equity Programs which assist over 150 women with child care, transportation, tuition and support services, workshops for students in goal setting and self-appraisal, continuous workshops to help faculty improve student's self-concept, assistance with GED preparation, tutoring and cultural enrichment activities. Most importantly, the college has a caring faculty and staff who provide positive reinforcement and support to at-risk students.

Notes from the Editor

Richard F. Malena

HELLO! Spring is upon us! It is the time for renewal and beginning again. The first journal is now history. As I reflect back, this happened because of the wonderful efforts of some outstanding people. They have helped create this issue, too, so that the quality is consistent with the goal we set. They deserve some special recognition.

The journal board deserves special thanks for its efforts. Additionally, Alan Church, editorial assistant and right hand man to me, worked very hard to make each article perfect. His editing skills are truly reflected in this issue. Peg Galligan, the legs of the operation, was a tireless "go-fer" who ran everywhere to get us all the things we needed at the last minute. She has done all the paperwork that this effort entails.

It was my pleasure to receive several phone calls and letters from community colleges around the country. The callers praised us for the effort of creating a journal to address community college interests and for the quality of the product they received. Many asked to contribute future articles; others asked to be part of the reviewing process. At this point, the journal will remain an endeavor of this district only. That is not to say that this will always be the policy. We appreciate the comments and praise, and because of this interest, know that we are on the right track.

Because of the response to the last issue's "Point of View" on the "At-Risk" student, we have added a new column to this journal, Letters to the Editor. This column will allow all of you to share in the points of view expressed.

This issue's focus on CRITICAL THINKING as the center for dialogue was selected because of facuity interest on this important topic. Students with the ability to think critically are in great demand not only here but in the community. Teaching critical thinking was for a time considered impossible, but that notion has been refuted by the recent research of Ruggiero, Steinberg, Kurfiss, and others.

The "Point of View" column addresses the issue of what critical thinking is and where is should be taught. The introduction by Linda B. Rosenthal comments that the community college is THE place for the instruction of critical thinking; indeed, the mission of the college is to teach students to think critically and to solve problems. Following that are four viewpoints addressing that issue. Roy C. Amrein gives a college board member's perspective. Mike Morgan addresses where to teach it; Anna Solley stresses a complete curriculum approach; and Ann Mahoney focuses on philosophy as the discipline in which to instruct it. Jill R. Seymour annotates a bibliography of resources on critical thinking.

Articles in this issue of *Vision '90* deal with eclectic issues in the college setting. Collaborative learning is discussed by Julie Ann Wambach; W. Bradley Kincaid explains the use of learning cycles and reasoning skills in teaching biology concepts. "Want to Add Some Adrenalin?" by William Butler offers ideas for injecting enthusiasm in a writing class. Antonio Blasi describes some effective learning strategies from his jazz history class that are applicable to other content areas. Concerns about the learning environment and its implications for the adult learner are the topics discussed by René Díaz-Lefebvre, and Susan Starrfield offers findings on research to enlighten us on student evaluations.

Lastly, but certainly not least, is the appointment of three new board members who will take office in the fall: Don Richardson from Phoenix College, Susan Starrfield from South Mountain Community College, and Nancy Pittman from Mesa Community College.

PUTTING VALUE IN EVALUATION:

A REVIEW OF THE RESEARCH

SUSAN STARRFIELD

At the end of each semester, your students will be asked to evaluate your course. They will be asked to rate the effectiveness of your instructional practices and activities and your attitudes and behaviors. In a Gallup poll, college instructors expressed a great skepticism of the effectiveness of student evaluations (*Phoenix Gazette*, 1989). The sample polled thought that students were not adequately prepared to evaluate instruction. They also thought that students might not be objective. For example, they might give an instructor a good evaluation if they were anticipating good grades in the course. However, a research meta-analysis of 31 studies of student evaluations found that most of the time both students and faculty use the same criteria in their evaluations. In other words, when the results of 31 research studies (meta-analysis) were compared, it was found that what students thought was most valuable in a course was also perceived by instructors to be valuable in a course (Feldman, 1988). The average correlation was about the same in 2 and 4 year institutions. Thus, there is a positive relationship between what students and faculty value.

Let us examine some of the findings of this study and other studies to help you gain confidence in the student evaluation credibility and to ascertain the similarities and differences between what is important to faculty and students in a course. You might also compare your own strengths and weaknesses, your own preferences and dislikes with the ratings of a large sample.

When each criterion was ranked and averaged by both faculty and students, these were the "Top Ten" (Feldman, 1988):

1. Teacher's sensitivity and concern with class level and progress.
2. Teacher's preparation; organization of course.
3. Teacher's knowledge of that subject.
4. Teacher's stimulation of student interest in the course and its subject matter.
5. Teacher's enthusiasm for subject and/or teaching.
6. Clarity and intelligibility.
7. Teacher's availability and helpfulness.
8. Teacher's concern and respect for students.
9. Perceived outcome or impact of instruction.
10. Teacher's fairness; evaluation of students; quality of examinations.

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There was, however, great discrepancy in the way students and faculty ranked two instructional dimensions. Students placed much greater emphasis than faculty on an instructor being interesting or stimulating and on an instructor having effective elocutionary skills. Conversely, faculty valued intellectual challenge, motivation, setting high standards, and encouraging self-initiated learning to a greater degree than did students. Both groups agreed on the high importance of instructors being knowledgeable about the subject matter, clear and understandable, and sensitive and concerned about class level and progress. Of low importance, relative to other factors, were clarity of course objectives and requirements, the personality of the instructor, and the extent of the instructor's research activities. Feldman (1988) used a rank order of criteria, because he perceived from other research that when students indicated the degree of importance of certain characteristics, they were in effect ranking them. When average standardized rank of criteria (Feldman, 1988) is compared with that of an earlier study by the same researcher (Feldman, 1976) the evidence shows that expectations have not changed over the decade. The "Top Ten" dimensions are almost identical in content and rank order. What is good teaching has remained good teaching as far as students and faculty are concerned.

These rankings for "Top Ten" were confirmed by another study (Erdle & Murray, 1986) which also explored the idea that the subject matter of a course might influence student ratings of instructional effectiveness. It did not, "...indicating that what makes an 'effective instructor' is roughly the same regardless of academic discipline" (p. 125). Differences were found, however, when observations were made of teaching behaviors. Faculty in the arts and humanities were found to exhibit more behaviors associated with interpersonal orientation, while teachers in the natural sciences demonstrated behaviors associated with task orientation. Those in the social sciences had a balance of both orientations (Erdle & Murray, 1986). Nonetheless, student ratings were not influenced by these behaviors.

What seems to influence students' ratings is their perceived learning (Baird, 1987). Baird suggests that students rate instructors according to how much they believe they have learned rather than according to their anticipated grades. This does not hold true if students are informed of their grade in advance. Of course, students' grades and what they have learned might just be related! Good students get good grades and seek out good instructors (Marsh, 1984). This meta-analysis, and yet another by McCallum (1984), provides credence for the validity of student evaluation of instruction. Evaluations measure actual effectiveness of instruction.

The personality of the instructor tends to influence student ratings. Students are attracted to instructors who are perceived as being "warm" rather than "cold," regardless of the discipline they teach (Widmeyer & Loy, 1988). This effect was even more pronounced for female instructors. Students like female instructors who are both warm and competent, although both female and male students tend to favor male instructors over female instructors in their ratings (Basow & Silberg, 1987; Kierstead, D'Agostino, & Dill, 1988). Therefore, administrators might consider the bias of ratings in favor of male instructors when looking at faculty evaluations.

It is also encouraging to note that impressions are flexible and influential. Students modify their first impression of the instructor over time. Their ratings are unbiased by initial expectations (Gigliotti, 1987), unless they are barred from a fair chance of being successful and achieving a good grade. The results of two studies support the "Looking Glass Self" theory of sociologist Charles Horton Cooley which states that individuals form self-concepts on the basis of how they perceive that people are viewing them. In other words, we see ourselves based on how we think others see us. The perceptions which instructors have about how students evaluate them can, in turn, influence their instructional behavior (Feldman & Prohaska, 1979). Also, the students' impressions of how an instructor feels toward them influences the ratings which students give to instructors. The relationship between the instructor and the student was a good predictor of student ratings (Cooper, Stewart, & Grundykunst, 1982).

The research on evaluation of instructional effectiveness is quite reassuring. It tends to demonstrate the following:

1. Students and faculty agree on what is important in instruction, although students value interpersonal criteria more than faculty and faculty value cognitive criteria more than students.

2. The same criteria have been valued by students and faculty for a decade.
3. Students base their evaluations on the perceived value of what they have learned. Grades are not a significant basis for evaluation if grades are fairly awarded.
4. Students rate faculty whom they perceive as warm and competent more highly than those faculty who they perceive as cold and less competent.
5. The interaction between student and faculty affects ratings. A positive relationship yields a higher rating.

The evidence from the research supports both the reliability and validity of student ratings of an instructor's effectiveness. You, as an instructor, can trust the motivation and objectivity of your students knowing that you and your students agree on the important components of good instruction. Evaluations can be confidently used by both faculty and administrators for comparison, prediction, and improvement of instruction.

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Collaborative Learning: Confronting the Lip Service

Julie Ann Wambach

When was the last time you encountered a group of students in the cafeteria or library involved in a lively discussion of ideas and issues generated from a college course? I am not referring to college life survival questions such as which instructors give less homework, or who has a used text for less than the college bookstore. I mean a student-initiated interchange of information and speculation beyond the text and lecture. Collaborative learning holds unique promise for community college students to become so engaged. Instructors who wish to try collaborative learning need to plan carefully and recognize that collaborative learning stands opposed to much of traditional instruction. Neither students nor instructors find collaborative learning immediately easy or comfortable.

In this article, I will discuss (1) what collaborative learning is, (2) some adaptations required of those considering collaborative learning, and (3) some evaluation formats unique to collaborative learning. The last section will include examples from my college small group communications classes that utilize collaborative learning as both course method and content. Not only is collaborative learning the strategy I use to teach group communications, but the course emphasizes learned communication skills necessary for collaboration.

Collaborative Learning

Several educational terms are associated with collaborative learning. *Active learning* means a student is doing more than listening to lectures, reading text materials, and taking tests. So long as there is class discussion, active learning can be said to be taking place - even if the instructor is more active than the students. While some use the term synonymously with collaborative learning (Hamlin & Janssen, 1987; Nanda, 1985), active learning can occur alone (Benware & Deci, 1984). Traditionally, science instructors expect students in labs to learn actively—unaided by other students (Gilbert, 1984). Active learning is not necessarily collaborative learning, but collaborative learning requires students to be active.

Learning communities include a variety of ways to link existing courses under existing college structures to provide greater depth and integration (Smith, 1989). Depending on the model, learning communities may or may not provide collaborative learning, but collaborative learning does build communities of learners

Cooperative learning focuses on methods that encourage students to work together, rather than compete. Cooperative learning provides students with tasks in which two or more peers are "allowed, encouraged, or required to work together" in order to assist one another to learn, and are rewarded for being interdependent with other students (Slavin, 1983, p. 431). In our educational system that emphasizes competition, cooperation is not easy for either the student or instructor. Cooperation is part of collaborative learning, but collaborative learning goes even further.

Collaborative learning requires students to confront the difficulties of working with others who bring various interests, perspectives, and skills to a task that demands group members' input. Regardless of the class content, the skills stressed in collaborative learning are basic to American government, business, and social life. Most decisions that affect the electorate, or the corporate entity-at-large, or the constituents of our society are made by peer groups. Community colleges provide very few opportunities for what Richard Rorty called "communities of knowledgeable peers" (cited in Bruffee, 1984). Seldom are students required to think together, confront problems together, and work together to seek solutions to commonly shared concerns.

Required Adaptations

It is a mistake to put students into a group, give them a task, and then wait for their product. They will needlessly flounder as they attempt to accomplish that for which they are unprepared. You can be sure students will immediately complain (Hamlin & Janssen, 1987). Instructors need to present a clear task statement, proce-

dure guidelines, expected outcomes, and evaluation criteria. *Task statements* should be written and include questions to be answered (Weiner, 1986). A geology class group may be asked to identify specific rocks. A history class group may be required to assess the immediate and more long-term impacts of Lincoln's assassination. *Procedure guidelines* include the means by which the task can be completed. How does a political scientist compare forms of government? How does a chemist determine the makeup of a laboratory solution? *Expected outcomes* can include various products. A completed worksheet, a group composed essay, an oral report or demonstration by the group recorder or all group members are appropriate for different class tasks. *Evaluation criteria* should be specific for both the final product and the participation in the collaborative effort. In accounting and mathematics, the procedures may demonstrate an understanding beyond the less-than-perfect final answer. What contribution to the final product is each student expected to make?

> "To learn collaboratively, students need to trust classmates who will affect their grade in the class."

To learn collaboratively, students need to trust classmates who will affect their grade in the class. Collaborative learning is best when students are willing to challenge one another, and students will do that only when they have confidence in themselves and others in the group. With planning, an instructor can build group cohesiveness into the tasks, procedure guidelines, and evaluation criteria.

Since the first assignment sets the tone for the succeeding work, consider a group project to learn specific material and teach it to the rest of the class. Benware and Deci (1984) reported a small study that confirmed what most instructors already know. They compared students who learned material in order to be tested to those who learned to teach others. The "to test" students received the same score as the "to teach" students on rote learning. The "to teach" students, however, received significantly higher scores on conceptual learning. Compared to the self-reported responses of the "to test" students, the "to teach" students ranked their experience in the experiment as significantly more interesting, enjoyable, and were willing to participate again. Ask students to collaborate on learning information to teach their classmates, and you may find they learn concepts better and look forward to learning more.

Classroom management is also unique in collaborative learning (Sandburg, n.d.; Weiner, 1986). Instructors need to plan student movement into and out of groups, set timelines, encourage everyone to participate, and cover some basic communication suggestions, e.g., support others, ask others to justify solutions, ask others to use examples, extend others answers (Johnson, Johnson, Holuber, & Roy, 1984).

Evaluating Collaborative Learning

Students and instructors who have been part of our educational system are not prepared to abandon traditional grading formats. This means instructors who use collaborative learning may select a grading system that is more complex than most. A summary of studies on cooperative learning concluded that group rewards and individual accountability consistently increased student academic achievement more than control methods (Slavin, 1983). Presently, I include both, but I still emphasize individual rewards. Because my grading system is different from what students have known, they struggle with a final grade that is 20-27% group reward and 73-80% individual accountability and reward.

Group rewards include one opportunity to excel in group work over individual work, and two group grades. Near the end of the semester, I tell students what will be included in the second written test, for it covers a broad range of material. The test is worth 10% of the final grade. The first part of the test (30 points) they must take alone; the second part (70 points) they may take alone or as a group. The best way to prepare for the second portion is for each group member to become the expert on a portion of the material. Those who have learned their group communications skills during the semester find this test challenging but not beyond the group's ability. Those who take the test alone seldom do well.

A group grade is the same for everyone in the group. The criteria for group grades goes beyond individual expectations. Did the group devote its time to work or did members just fool around? Did the group stay on schedule or was it consistently behind? Did group members share equally in the work or did some members carry a heavier load? Does the final product meet all the required information? Is the final product in correct form or does the group still not understand the assignment? Three projects in group communications include group grades and they account for a total of 20% of the final grade. Students may include an additional 7%, if they take the second portion of the second test as a group.

I disagree with Hamlin and Janssen (1987) who claim there is no way to control disinterested, non-participating students. The individual accountability I build into my grading scheme makes a difference. Participation in my group communication class is 10% of the final grade. Six of this 10% are based on peer evaluations. This means students receive 6% of their final grade from their peers. I have had students who dropped class early in the semester when their peers gave them a "D" or "F," and others who immediately improved their group performance. Because collaboration cannot be learned in any way other than by doing it, I also attach 15% of the final grade to attendance. Students begin with A+ and their grade goes down with each absence. It takes virtually no class time to pass a roll sheet for students to sign next to their name.

The second written test includes 70 points which students may do either alone or as a group. Group members have the option of telling classmates, who have not done their part, that they must take the second portion alone. The impact of hearing this from one's peers goes far beyond 7% of the test grade. I always talk with each ousted student to make this painful lesson a constructive one. The students who tell their classmates they cannot participate also learn about standing up for their rights and conveying face-to-face evaluations which are often difficult to express.

Individual rewards include attendance grades, participation grades, and individual assignments. Those who come to class and participate well are rewarded by the instructor and by peer participation grades. Students take the first test, worth 5%, alone, and they also do a paper, worth 15% of the final grade. The grade distribution, then, shapes up as follows:

Assignment	Group	Individual
Project 1	05%	05%
Small Assignments	05%	10%
Test 1		05%
Project 2	10%	10%
Paper		15%
Test 2	07%	03%
Participation		
Instructor Graded		04%
Peer Graded		06%
Attendance		15%

Final Comment

Kenneth Bruffee (1984) noted that interest in collaborative learning has been more theoretical than pedagogically practical. Traditional education provides serious obstacles to the use of collaborative learning. It is difficult for students to engage in Bruffee's "conversation of mankind" when lectures are still the primary teaching method. It is difficult for students to believe in a group product when many instructors construe such activity as cheating. It is difficult for students to trust classmates when grades have almost always been a measure of individual excellence; the best academic students find my group communication class most trying. Yet, I am convinced that only when we offer collaborative learning opportunities will students generalize their group experiences to their lives outside the college — the cafeteria, the library, the job, and the community.

(Continued on page 25)

want to add some ADRENALIN to a (yawn) essay writing class?

William Butler

As a semester of essays winds down, have you wished you could give classroom activity a little extra zing? Me too. My students write eight essays over an 8-week course and need to recharge their batteries before tackling the term paper. So for a change of pace, I assign an argumentation/persuasion five paragraph essay that gets their attention and produces some remarkable dynamics. Unlike the other essays, this one is oral and makes members of two five-student teams responsible for one paragraph each. Both teams have the same subject, arguing pro or con—in other words, they debate. Team leaders introduce the argument, three members present individual items of support, and a final member wraps it up with a strong close. This oral essay stirs up the doldrums in my classes just as it can in any class, not exclusive of those where written composition is not a requirement.

The team leader is the spark plug for the group, but team spirit comes from all members taking part in the process, including choosing the leader. I do not know if it is peer recognition of leadership qualities, or if it is leadership qualities themselves that rise to the occasion, but a strong leader always emerges. As Bailey, Powell and Shuttleworth (1986) outline, the opening paragraph of an essay begins with an attention-getter, contains a central idea or thesis, includes a blueprint or game plan to let the reader know what to expect in the ensuing paragraphs, and gives the writer a framework upon which to build. I instruct the team leaders to compose the opening of their debates similarly, by getting the central paragraph topic sentences for the essay blueprint from the team members responsible for them. This ensues from two or three lively classroom sessions when separate teams meet in the four corners of the classroom to exchange thoughts. With twenty or more students, two debates back-to-back are easy and fun, each group of pro and con teams providing an audience for the other.

The three central paragraphs get all team members into the library. As I beat drums and wave flags to get their competitive juices flowing, I am amazed at how gung-ho the teams get to find statistics, authoritative statements, or other data to support their position. To make sure they can come up with something quickly, I use subjects taken from the quick reference guide of the *Social Issues Resources Series* (SIRS) and suggest those volumes as a good place to start. They do not stop there, though, and I am gratified at how quickly they get into other research—limited of course, but after all, this is only ENG 101.

The final team member works up the "close." In the first class of the semester, I reassure apprehensive students by telling them right out of Bailey et al. (1986) that it is easy to write essays: "Just tell them what you are going to tell them, tell them, and then tell them what you told them." So on this assignment, I instruct the teams to work together closely so their presentations can conclude with a final speaker's summary that includes a vigorous, positive assertion of their point, pro or con. I stress that the last presentation must wrap up their argument with force so the audience does not just respond with "so what" or "ho hum." My final words: "Nail the lid on the keg and if you do feel you are going down, at least go down in flames!"

This oral presentation is not a first time experience for my class because I have six students each week present their essays from the lectern in conjunction with

regular peer critiquing that the class conducts. This activity has several plus factors: frequently the ear hears what the eye does not perceive; the students receive broadened exposure to writing techniques of their classmates; the class gets better acquainted and a feeling of unity develops; finally, self-confidence builds and a sense of poise becomes apparent.

The team presentation is voluntary, but I have never had a student decline. Once the teams are formed, they become self-sustaining with members helping each other in lively interaction. When the debate is over, I ask all students to give me feedback on the activity in a report they can sign or not as they choose. In 4 years, they have all signed strong, positive statements—all but one, a lone dissenter. You hate to have not favorably impressed that one, but a unanimous poll may not be as credible. Some examples of student reactions are revealing. As one student, whose topic was euthanasia, described:

> Shaky and nervous, I went up to the debate table, my notes clutched in my hand. Butterflies danced in my stomach and I had difficulty breathing. Soon we were delivering our arguments and I was next; I didn't really know how to say what I wanted to say, but I tried the best I could and soon the nervousness went away. Emotions became very heated and I found myself getting angry at my opposing classmates! It was a good debate and I agree there are both good and bad things about euthanasia. Afterwards, we congratulated each other and laughed about how upset we got. Even now I think up rebuttals and arguments about the debate. I think this has increased my reasoning capacity.

Another student had this to say about the subject:

> This class had student juices flowing and many personalities became apparent in the debate session. It was also an eye-opener, personally. My topic was for euthanasia. Going into the debate, I was against euthanasia; after researching the topic, I am now for it under certain conditions. I felt that by speaking in front of an audience trying to persuade them, I was better able to realize how you persuade your reader in an essay. It was a wonderful way to end the class sessions. I am glad I was part of it.

When the debates end, I tell the class, "Everyone who participated in the debates, raise your hand." They all have, of course, so they all raise their hands. Then I say, "Now reach around and pat yourselves on the back, because you're all winners!" They all chuckle, and then they all do.

If you want a new assignment for a change of pace, if you want to add some extra zing to a course, if you want to get all of your students involved and make them feel like winners, you might consider an oral, five-paragraph argumentation/persuasion essay. Even if you do not require written assignments in your course, such an organized debate over topics covered during the semester can serve to reanimate your students in a fun and challenging way. Try it—you may like it.

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EFFECTIVE LEARNING STRATEGIES IN A JAZZ HISTORY COURSE AND THEIR POSSIBLE APPLICATION TO OTHER SUBJECT AREAS

Antonio Blasi

Like any instructor, I use specific learning activities to help me attain my educational goals. In teaching a jazz music class, composed of a majority of non-music majors, I find the following techniques increase student involvement and retention in my classes. One such technique I use is study groups. These study groups with oral class reports give students active learning experiences. Another technique I use is a written checklist that guides student response to my lecture or a musical selection, thus ensuring analysis and application of key concepts. When testing, I administer open-option examinations which seem to reduce anxiety and motivate students to study. These tools improve student involvement in my jazz classes yet can be adapted to fit in many disciplines.

Study groups provide students with opportunities to study portions of their texts in class, material which time constraints would otherwise prevent them from reading. I form the study groups during the first class session and explain to the class how the groups are to work. Each study group elects a leader who is responsible for delegating my assignments to their group. These leaders also work with me to develop the schedule for oral presentations. To assure effective learning, I set time limits for each study session. Each group works together to read and study their group's assignment and to plan their presentation. At the conclusion of each presentation, I elaborate on their reports and make concluding remarks ensuring that the class has all of the information I want covered on each topic. This reporting allows group members to share information they have read with the entire class and also gives them an opportunity to develop or sharpen their speaking skills. With my encouragement, many gradually become more confident about speaking in front of their peers.

To encourage students to analyze and apply class material, I devised an activity for each class period around a checklist. The checklist is an outline of theoretical and aesthetic principles discussed in class, such as rhythm, meter, and text. When using it, students focus their attention on particular aspects of the checklist while listening to a stimulus — either music, lecture, or other material. As they are concentrating on the stimulus, they indicate on the checklist the principle they think labels or defines the stimulus. At

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Figure 1

RHYTHM
(Patterns of Long and Short Sounds)

_____ Long Sounds (When?)
_____ Short Sounds (When?)
"—" represents a long sound; "." represents a short sound
_____ Draw signs for the rhythm patterns you hear in the space below

_____ May change for the same meter
_____ Polyrhythm = more than one rhythm pattern at the same time

METER (Pulses per Measure)

_____ Strong pulse/weak beats
_____ Duple = pulses grouped by 2s
_____ Triple = pulses grouped by 3s
_____ Compound = pulses grouped by 6s or 9s
_____ Irregular = pulses grouped by 5s, 7s,-or 11s
_____ May change (when?)
_____ Polymeter = several meters simultaneously

TEXT (Words)

_____ Does the music fit the text?
_____ Strophic = same music for each verse of text
_____ Is there a chorus or refrain in the text?
_____ Through-composed = the text or music does not repeat

AESTHETICS

Listening to this music makes me:

_____ Excited
_____ Relaxed
_____ Other

To use a metaphor for my feelings, this music is:

_____ Serious
_____ Sacred/religious
_____ Tells a story
_____ Majestic
_____ Broad
_____ Military
_____ Sad
_____ Gloomy
_____ Dark
_____ Dramatic
_____ Exciting
_____ Restless
_____ Happy
_____ Bright
_____ Cheerful
_____ Dreamy
_____ Tender
_____ Sentimental
_____ Quiet
_____ Soothing
_____ Calm
_____ Mixed up
_____ Straight ahead
_____ a color — which color?

When?

times they may be asked to explain in greater detail. The checklist also assists me in lesson planning. When a particular item is not being selected by students using the checklist, I change my instructional emphasis to elaborate on it (see figure 1 above).

My main goal in using the checklist is to develop each student's aesthetic sensitivity. The aesthetic categories consist of metaphors and descriptive phrases dealing with aesthetic awareness. Students check the phrases which best correspond to their feelings about the music I play for them in class and of the images the music invokes for them. I also try to get them to expand on their responses verbally. Aesthetic theory is included as a quiz item. Aesthetic responses are also an element of the student's written critiques. Through these means the quantity and quality of students' aesthetic responses improves.

Checklists can be created for any subject area that has learning objectives that require either critical thinking or aesthetic awareness. For example, a history lesson could incorporate a list of principles that were basic to a period or movement. As students listened to a lecture or some other stimulus, they could check the pertinent items that correspond to the historical principles discussed in that class.

A short-answer, open-option examination format is an effective means of evaluating student learning. Open-option testing allows students to choose which test questions they will answer from a larger list. By analyzing previously administered exams, I can ascertain which items are consistently being selected. This analysis also helps me to identify those questions the majority of students avoid. This gives an indication of which course objectives are being met. I can then concentrate my instruction on these items.

Open-option testing allows students to respond to items to which they attach personal meaning. This generates positive attitudes toward the examination process. During a semester, I constantly advise students to highlight information in the lesson content that appeals to them; if something that is initially attractive about a subject is highlighted, students are more likely to remember it. This practice also seems to promote greater student interest in the subject matter.

Students learn better when they actively participate in learning. This includes comprehensive practice in analyzing and applying factual information, and in my course, the cultivation of aesthetic awareness. I accomplish these goals by using a combination of study groups, checklists, and open-option examinations. In addition, an analysis of the responses to checklists and examinations assists me in lesson planning and test construction. These tools can be successfully employed by any instructor who has a teaching philosophy similar to mine.

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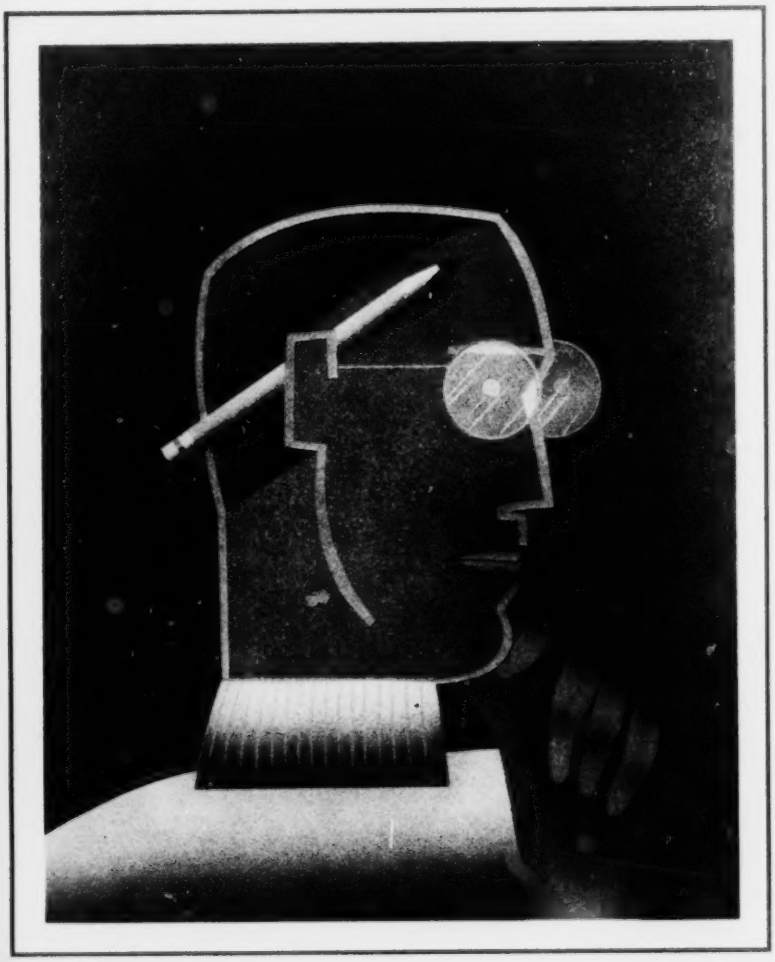
POINT OF VIEW

CRITICAL THINKING



Recently, I was asked where I thought thinking should be taught. Although I have known for some time that the best place to teach thinking was on my sailboat in the Sea of Cortez, I kept mum because I haven't been able to find any direct support in the literature for my position. On the other hand, taken as a whole, the literature has certain implications that encourage my sailboat idea — but more about that later. More directly, in the literature, the issue of where and how thinking should be taught is framed in terms of the type of programmatic approach, namely, whether an *infused* or *separate* approach should be used. The *separate* approach involves a special course of study, whereas in the *infused* approach, thinking skills are mixed into courses and taught "across the curriculum."

Both infused and separate approaches have their own special educational advantages (Sternberg, 1987). *Separate* programs (a) can maintain their identities and avoid being overwhelmed by curricular content, (b) can explicitly expose the student to thinking skills as such, and (c) can be evaluated independently of course content. *Infused* programs (a) don't require a separate course, (b) teach intellectual skills in the applied context of a course, and (c) reinforce the point that thinking skills are important throughout the curriculum.

Which of these approaches is most effective in teaching thinking? Well ...experience indicates that "thinking abilities ... remain limited unless faculty combine forces to cultivate thinking skills deliberately throughout the curriculum" (Kurfiss, 1988 p. 91); that "students can learn the structural features of arguments, but they must also learn the forms and standards of evidence for each field of study" (Kurfiss, 1988, p. 13). On the other hand, there are realistic limitations on just how broad and deep the infusion of "thinking across the curriculum" can be. Faculty cannot really be expected to be experts

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in their discipline and in the teaching of thinking skills (Sternberg, 1987). Specialists and at least one special course are also valuable. So, both approaches are the most effective approach.

Separate and infused approaches also present their own special challenges to implementation. The separate approach requires (a) making a place for a course in the curriculum, (b) instructional staff, (c) space and facilities, and (d) an adequate enrollment of students. An infused approach would require faculty involvement and training across the collegium, and appropriate course alterations in the curriculum. So, although both approaches have their own special implementation problems, the political and organizational challenges of infusing "thinking across the curriculum" are especially formidable, i.e., "curriculum-reform" formidable. Which is to say that implementation would have to be accomplished in settings where faculty participation would be voluntary; where neither the working conditions nor the pay of faculty would thereby be improved; and where participation would only add to, complicate, or change existing teaching responsibilities and practices. Is it any wonder that "integrated instruction at the curricular level is rare" (Kurfiss, 1988, p. 94)?

It would be easier and faster to implement a separate approach by starting a single course, and this is probably the most feasible way to begin (Kurfiss, 1988). Traditionally, courses in rhetoric, logic, and philosophy have more or less filled the bill of a separate approach. But the important educational advantages associated with "infusion" argue strongly that the development of a thinking skills program should not be left at that. So, any approach that could solve or even ameliorate problems associated with the implementation of thinking skills would be useful.

Don Snow and I, in our instructional computing project, "Thinking Across the Curriculum," were motivated by the idea that the implementation of programs for training intellectual skills could be facilitated with the instructional assistance of computer-based tutorials designed to train specific intellectual skills. Faculty could assign such tutorials as appropriate to the goals of their course or to the needs of particular students. For example, Don is working on a program designed to train students how to infer the meanings of words from context — a vocabulary-acquisition skill that is generally much more effective than just a flash-card approach. Such training could have very general utility across the curriculum. I'm working on an informal logic module, which deals with fallacies of explanation, relevance, ambiguity, and self judgement. The fallacies of *explanation* would have special applicability to science courses; those of *ambiguity* to English and communication courses; those of *relevance*, to history, political science, law, and sociology; and those of *self judgement* to counseling and to personal and social adjustment. Such tutorials could serve as instructor assistants that could broaden, enrich, or provide a kind of higher order remediation across the curriculum.

The most important advantage to be gained from such tutorials lies in their potential to enhance the educational power of the instructor and the educational access of the student. To the extent that such tutorials could reduce the need for additional staff or additional programs, cost could be reduced. To the extent that such tutorials could be done in a computer lab, requirements for additional instructional space and facilities would be minimized. Most importantly, the need for course alteration, i.e., intrusive curriculum reform, would also be avoided because the computerized tutorials could be used as "add-on," or "infused-in" assignments. In these ways, this computerized tutorial approach has the potential to facilitate the implementation of efforts to teach thinking across the curriculum.

Returning now to the question, we see that experience supports the idea that thinking should be taught everywhere in the curriculum — as teachers have always striven mightily to do. What an intentional "across the curriculum" approach brings to this process is a focus on fostering a self-conscious kit of intellectual tools students can use in life "across the extra-curriculum." Where does this leave me and my sailboat? Well, I take comfort in the fact that there is nothing in the literature that indicates that sailboats would not be the best place to teach thinking. And I submit that a very sizable percentage of students and teachers would rather learn thinking on my sailboat than in a classroom. But I suppose that my appeal to the authority of the many, and my argument from ignorance are not very convincing. So, until direct evidence supporting my position is developed, I suppose I'm best left to these thoughts where thinking is best for me — on a sailboat in the Sea of Cortez.

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POINT OF VIEW

MIKE MORGAN

POINT OF VIEW

ANNA SOLLEY

American colleges and universities have recently renewed their interest in developing student's ability to think critically. Several of these institutions of higher education have implemented innovative programming efforts in an attempt to teach students how to organize and present information and ideas, to plan and make decisions, and to connect theory with practice. In fact, universities and colleges in California have gone so far as to institute a graduation requirement in critical thinking.

This renewed interest can be attributed to several factors. First of all, students need to develop critical thinking abilities to help them cope with and make complex decisions about life. Secondly, the college setting provides many students with their first real opportunity to focus attention on the reasoning process. Thirdly, the explosion of new and emerging technologies places students in the position of synthesizing and evaluating more information in more ways in less time. Finally, critical thinking skills are becoming increasingly essential to employment even at entry level positions.

The teaching of critical thinking has been around since the days of Socrates. However, today the term has been expanded to mean an active and organized process that emphasizes a rational basis for beliefs and ideas and provides procedures for analyzing, testing, and evaluating them.

Educators can foster the development of critical thinking skills by teaching them in discipline specific courses (some examples include ENG 080TS Thinking Skills, PHI 103 Introduction to Logic, PHI 106 Critical Thinking, and RDG 101 Critical and Evaluative Reading) as well as promoting campus wide programs including critical thinking across the curriculum. Such efforts will ensure that critical thinking skills permeate the teaching and learning process.

Critical thinking can be blended into content instruction in any discipline by utilizing several approaches to teaching. Instructors should focus on concrete events including real world situations drawn from career, academic, and personal circumstances. Critical thinking should serve as a bridge between students' personal and academic worlds, showing students that they possess abilities in the real world context which can be applied in academic settings. The process of thinking ("how") rather than products or outcomes ("what") should be emphasized by encouraging students to evaluate many alternatives. Such approaches will lead students from concrete, everyday ideas to more abstract, reflective ways of thinking.

For the most part, students are not consciously aware of how they think. They need to be encouraged to think about their own thinking (this process is known as metacognition). Bringing the skills they already possess to their consciousness is a great beginning to an exciting process: the ability to monitor their own plan and reflect on its effectiveness, consciously knowing the thinking strategies they are using.

Higher education should focus on how to think rather than on what to think. We need to emphasize methods that transform students into active participants in their own intellectual growth rather than those which make students passive recipients of information. A paradigm shift must occur from rote memorization of information to self-directed learning which emphasizes critically gathering and assessing data. The time has come to create challenging educational opportunities for an informed student body — let's seize it!

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When we look at the need for "critical thinking" in the classroom, who goes first - the student or the teacher?

As a frequent continuing education student over the years, my classroom experiences on the whole have been very positive. But one isolated experience comes quickly to mind when considering an answer to the chicken-or-the-egg question above.

I was enrolled in a social psychology class, enjoying the entire experience, when the instructor began to describe mental and physical stability of inhabitants of a remote fishing village, comparing them with the less favorable condition of inhabitants of a sugar plantation — all whom lived on the same island.

According to the teacher, the stability of the fishing village inhabitants was due to the village having been in existence longer than the sugar plantation.

At this time, I had already been treating patients for more than 20 years; I had witnessed in my patients what science has long diagnosed as the effects of diet - not only physically but mentally. So I suggested to the teacher that there could be other causes for the behavior and physical conditions of those two groups of people.

The teacher emphatically replied, "No," that the textbook clearly stated this was the reason. I suggested there was a possibility that the difference in dietary habits of the two (the high-quality protein of fish in one and the abundance of sugar cane in the other) might also contribute to their condition. The teacher again declared, "That would have no effect."

Did this teacher display sound "critical thinking" skills? By her response, she assumed the role of an expert and refused to accept my communication. She was not even willing to take into account the findings of biology or nutrition.

On the surface, this may seem a trivial issue, but to me it displays the instructor's lack of ability to impart and incorporate the values of "critical" or creative thinking into the learning process. Here is also an example of how a teacher's attitude can either create or destroy the symbiosis that ideally should exist between teacher and student.

What concerns me (and many others) about the archaic teaching method I have described is the failure of some teachers to recognize that they have a problem psychologically and/or spiritually. Their teaching style is the by-product of their own limited thinking process. My instructor was intimidated by my questioning. Her defense was the textbook. There was no more questioning or probing, analyzing or evaluating or problem-solving. The matter was closed! Could that class have been able to change the lives of those islanders for the better?

Michael Scriven, professor of education at the University of Western Australia, wrote in *National Forum* (1985) that "... training in critical thinking should be the primary task of education...."

When I took a class in logic at Phoenix College a few years ago, I discovered that logic dealt with deductive reasoning and not inductive reasoning. Inductive reasoning examines how: deductive reasoning relates to why.

Do the teachers in our institutions focus sufficiently on how important it is for students to know this difference? Are we asking our students to think or just fill in the blanks? With all the global challenges that lie ahead in this final decade of the 20th Century, are we preparing students to become problem-solvers?

During the Nixon era, Arthur Schlessinger, then Secretary of Defense, gave the commencement address at the Massachusetts Institute of Technology. His opening statement was ominous: "You are the most dangerous people on earth because you have learned how to build the atomic bomb, but (you) have not learned why you should build the atomic bomb." His statement, to me, signaled the common thinking process of the masses in contrast to critical thinking especially as it relates to our educational system.

Most American educators lack a clear understanding about how the mind works. Primary and secondary school teaching especially glorifies facts and memory. Rarely have I found an educator who could give me a clear definition of deduction and induction as it relates to teaching. You may wish to ask yourself this question. To understand the deductive process is not an easy skill. To apply it in the classroom is even more challenging!

The Maricopa Community Colleges are distinctly teaching institutions. But the teacher is not omniscient. If the teacher is involved in the process of discovery along with the students, both teacher and student are rewarded. We promote the idea of life-long learning for our students. Should we not model that ideal?

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Roy C. Amrein has been a member of the Maricopa Community Colleges governing board for the past 10 years and is serving as the board's president in 1990. Dr. Amrein, who attended Phoenix College, has been a chiropractor in the Valley for the past 31 years.

POINT OF VIEW

ROY AMREIN

POINT OF VIEW

ANN MAHONEY

The one thing that both the biological evolutionist and the biblical creationist agree on is the fact that thinking is the most pronounced trait that distinguishes mankind from other life forms. It is our ability to reflect on past experience and to organize data into meaningful collections from which we can draw conclusions that has enabled us to develop and progress from life in a cave to life in a modern technological society. All knowledge rests on our ability to think. Without this ability, we would have no ethical distinctions and no scientific theories, no artistic creations and no aesthetic appreciation. Thus, thinking skills are fundamental to life as we know it.

Given the fundamental importance of thinking skills, it follows that we as educators have a responsibility to teach these skills to our students. That means that we must give up our reliance on memorization and the use of examinations that test only the ability to memorize facts presented by either the instructor or the textbook. All too often, students identify learning with memorization and when asked, "What do you think?" they are stunned. They do not know how to think about material they have so carefully memorized.

Students need to learn how to collect and use evidence to support conclusions. They need to learn how to evaluate evidence and to recognize the difference between good reasons which support conclusions and faulty evidence or fallacies which seem to support conclusions but in fact fail to do so. Students need to understand the importance of consistent claims and to recognize when speakers or writers rely on inconsistent claims which play on our emotions and persuade us to adopt false conclusions.

All of this leads to the question of who would be responsible for teaching students these important skills in the college curriculum. I think the answer is obvious. Everyone has a responsibility for teaching those skills that are relevant to that discipline. Literature teachers need to show students how to evaluate plot, character, etc. History professors need to teach students how to identify causes and how to evaluate historic evidence. Science professors need to instruct students in how to conduct experimentation and how to evaluate the resulting data. Each discipline has unique thinking skills that need to be included in the content of the individual courses. However, courses that are devoted to thinking skills exclusively should be taught by instructors who have a thorough grounding in formal logic. This means that the basic courses in thinking skills need to be offered by philosophy departments. Logic is the basis for thinking skills. It is one of the oldest disciplines known to man. The first book on logic was written by the Greek philosopher Aristotle approximately 2000 years ago. Logic can be viewed as the road map for our thinking processes, and unless one has a thorough grounding in formal logic, one lacks a true understanding of how the structure of arguments is formed. As any logician knows, there are eight basic inference patterns that underlie the structure of argumentation. Our thinking is a reflection of our ability to combine these eight valid inference patterns and to derive conclusions entailed by the combination of patterns. Unless one is familiar with these patterns, one is hampered in trying to teach basic thinking skills. The same is true in trying to teach students to recognize fallacies. One may be able to recognize intuitively that such and such is a fallacy, but unless one has learned to identify fallacies and knows why such and such is a fallacy, then one lacks the training to properly teach such skills.

Perhaps an analogy would be useful. With the recent emphasis on writing across the curriculum, we have encouraged professors in all disciplines to provide students with opportunities to write. We have not, however, suggested that a biology teacher teach grammar. We leave that to the English department because the faculty have formal training in grammar. The same is true of thinking skills. All disciplines need to emphasize the importance of thinking skills, but we should leave the basic teaching of such skills to those who are trained in formal logic.

One final thought. There has been considerable debate among educators on the issue of teaching thinking skills. The debate centers on the question, can we teach people to think? By no means do all educators agree on the answer to this question. It has been argued that thinking is not a skill in the sense that learning to ride a bike is a skill, and thus, it can not be taught. I disagree with this viewpoint. Certainly we cannot hope to make great thinkers out of everyone, nor can we ever guarantee that even the most gifted thinker will use that ability in all situations. But there are certain basic things that we can teach students to do. If we fail to do this, our students will not be educated. They will be only memory banks or trained talking parrots. As such they will not be able to function in the marketplace nor will they be able to make valuable contributions to society.

Ann Mahoney, who is a resident faculty member at Mesa Community College, has her PhD in Fundamentals in Philosophy from Arizona State University. She also holds two masters degrees, one in humanities and one in philosophy. Ann has been involved in issues of teaching critical thinking for a number of years. She is currently President of the Mesa Community College Faculty Senate and an active member of both the Budget and Strategic Planning committees. Since joining the Mesa Community College faculty in 1979, Ann has taught courses in philosophy and logic.

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USING THE LEARNING CYCLE TO TEACH BIOLOGY CONCEPTS AND BASIC SKILLS

W. BRADLEY KINCAID

Science education has been widely criticized for the low achievement scores of our students and their lack of reasoning skills, which would allow them to apply the knowledge they have to everyday problems (Byrne, 1989; Culliton, 1989; Rothman, 1988). Student experiences in science classes have left too many of them disinterested in science and with a low opinion of scientists and their conclusions (Cole, 1990; Hufford, 1990). The whole of the educational system needs to address these problems, and we, who teach in the community colleges, must do our part.

Many critics suggest that we overwhelm our students with a deluge of facts while underemphasizing the narrative flavor of our discipline and the processes by which scientific conclusions are reached (Cole, 1990). They suggest we should emphasize depth, not breadth in our science courses and teach as much about the process of science as the conclusions. Teaching students how to do science and involving them more directly in the learning process may improve their reasoning skills and their attitude toward science.

The learning cycle is a teaching model that requires students to examine alternative explanations for natural phenomena and develop arguments based upon evidence for supporting or rejecting these explanations (Lawson, 1988). In essence, students learn science by doing science. Understanding and appreciation of scientific methods may promote the acquisition of more appropriate concepts to replace prior misconceptions. Repeated exposure to scientific reasoning may result in the internalization of these critical thinking skills with benefits for virtually every aspect of their lives. Instruction based on learning cycles may also improve students' attitudes toward science by involving them more directly in the learning process, encouraging their curiosity, and removing the mystery surrounding scientific conclusions (Lawson, Abraham, & Renner, 1989).

Classroom Evaluation

In an attempt to evaluate the efficacy of the learning cycle model for biology instruction in the community college setting, I adopted the learning cycle design and materials developed for non-major, introductory biology by Professors A.E. Lawson and S.W. Rissing at Arizona State University (Lawson & Rissing, 1988). The basis for the evaluation was a comparison of my Biology Concepts classes with those taught by two other instructors in my department during the 1988-89 academic year. They used existing, more traditional methods of instruction based upon lecture presentation and laboratory demonstration of biological concepts. The fall semester was a trial period in which I improved my skills with learning cycle instruction and worked out the details of implementing the new course design and data collection.

During the spring semester, effects of the teaching method on reasoning skills were assessed by pre- and post-testing a total of 108 students divided among the three instructors. A variety of scientific reasoning skills was tested including conservation of mass and volume, proportional reasoning, identification and control of variables, probabilistic reasoning, combinatorial reasoning, correlation and dependence of variables, and reasoning to a contradiction. The test did not include biology achievement. Changes in attitudes toward science were assessed with a series of open-ended questions on student opinions about the course and their understanding and appreciation of scientific methods and conclusions. In the balance of this article, I will describe the unique aspects of learning cycle based instruction and my general conclusions regarding the efficacy of the teaching method. Detailed results will be presented elsewhere.

The Learning Cycle

The learning cycle methods that I adopted differed from those employed by the other instructors primarily in the design of the weekly laboratories and in the sequencing of topics. The learning cycle approach requires that biological phenomena be explored in the laboratory (or other exploration situation) prior to any discussion of related material in lecture. This allows students to examine their prior conceptions or misconceptions and, in many cases, design and conduct their own experiments to support or reject these explanations.

All laboratories for my class were based on learning cycles. There are three types of learning cycles, but they all share a three-phase sequence of exploration, term introduction, and concept application (Lawson, 1988; Lawson et al., 1989). The exploration phase is designed to be a student's first exposure to a new biological phenomenon. In the exploration phase of some lab exercises (descriptive learning cycles), students explore a phenomenon introduced by the instructor and attempt to describe the pattern upon which the biological concept is based. In other labs (empirical-inductive learning cycles), students go beyond description to generate potential explanations for the phenomenon. Class discussions then compare these hypotheses to existing evidence to determine which are most reasonable. In the most advanced learning cycles (hypothetico-deductive learning cycles), the exploration phase requires students to generate hypotheses and then design and conduct experiments to test their hypotheses. This places a heavy burden on student initiative and reasoning ability, but the rewards in learning are greatest here. The instructor plays an important and sometimes taxing role here, alternately as co-investigator and facilitator to maintain student progress.

"Students are encouraged to develop as much of the new concept as possible on their own..."

As the name implies, the next phase of the learning cycle involves introduction of terms related to the phenomenon explored. A term associated with a recognized pattern constitutes a concept (Lawson, 1988). The terms in different types of learning cycles will variously describe (1) the patterns discovered by the students, (2) the hypotheses advanced to explain the phenomenon, or (3) the supported hypotheses or conclusions drawn. Students are encouraged to develop as much of the new concept as possible on their own before it is fully revealed by the instructor. We never expect students to explicate fully a concept on their own, but they frequently come very close.

In the concept application phase of the learning cycle, additional phenomena are discussed or explored. Application of the concepts in new situations allows the students to separate them from their original context and generalize them. This requires students to recognize comparable patterns outside the context in which the concept was originally developed. For some students, this is particularly difficult, increasing the importance of practicing this process. Application of a concept to a new situation is a good test of a student's understanding of that concept.

A Learning Cycle on Photosynthesis

A description of an actual laboratory exercise will further elucidate the learning cycle model of instruction. A class discussion of how plants grow and, more specifically, where they obtain the necessary raw materials and energy begins the exploration phase of a learning cycle investigating photosynthesis. Points raised in the discussion are related to familiar observations such as the growth of house plants and gardens and plants giving off oxygen. Eventually, the discussion focuses on the role of light. Students are then asked to explore the spectrum produced by light passing through a spectroscope in relation to the usually green color of plants. The class is then asked, "What colors of light are used for photosynthesis?" Green light is invariably hypothesized along with an assortment of other colors and usually non-green light.

Now that we have a set of alternative hypotheses, an experiment is called for to differentiate among them. Here, the instructor's role as facilitator is necessary to demonstrate how an aquatic plant produces bubbles of oxygen when it is photosynthesizing. Most students will readily

accept that more bubbles mean more photosynthesis. Red, blue and green filters along with light sources of varying intensities are provided. Students are reminded that they must explicitly predict the results of their experiments for each of the competing hypotheses. One such statement might be: If green light is used in photosynthesis and the plant is placed under a green light, then a high rate of bubble production will be observed (i.e., if hypothesis and experiment, then prediction).

The experiments are then performed by small groups of two or three students without further direction from the instructor. Initial results are discussed after a short period of independent experimentation. Usually, disparate results are produced by a variety of experimental procedures. Comparison of experimental approaches leads to discovery of numerous uncontrolled variables including variation in size of plant, light intensity, distance of plant from light source, temperature, carbon dioxide concentration, and so on. The difficulties of controlled experimentation are readily apparent. This concept was introduced in a previous lab period, but it is not until late in the semester that most students design well-controlled experiments without prompting.

Experiments are redesigned and conducted with the instructor serving in the role as co-investigator. The term-introduction phase begins when final results are reported and compared to predictions in order to draw conclusions. Of course, plants are green because they reflect green light, which produced the least bubbles. Terms introduced may include some relating to properties of light (e.g., wavelength, photon, absorption spectrum), the photosynthetic process (e.g., action spectrum, chlorophyll, photosynthesis itself), and even controlled experimentation, if not previously introduced.

Concept application may proceed with some short demonstrations such as paper chromatography of plant pigments or starch production in variegated leaves or in leaves exposed to different levels of light. Concept application may also occur in a future lab, in a homework assignment, or more likely in lecture as other aspects of photosynthesis are discussed. In fact, most learning cycles lead to other discussions. One of the best ways to continue these spiralling learning cycles is through exploration of the history of the discovery of these concepts. Historical approaches involve students in the narrative of our discipline and give them a true sense of the process of discovery that is science.

Evaluation and Conclusions

The hypothesis that learning cycles can help students develop their reasoning skills is supported by a statistical analysis of the reasoning tests. Students in the learning cycle class had post-test scores that were 19.4% higher than those of students from other classes. Moreover, the absolute improvement of these students between pre- and post-testing was more than three times that of the other classes. Hence, it is apparent that use of learning cycles can improve the low reasoning skills of our students. This also demonstrates that reasoning skills can be learned and that our efforts can be fruitful.

The hypothesis that learning cycles can improve the attitudes of students toward science was supported by comparison of student responses to opinion questions. Virtually all of the learning cycle students, compared to 20% from the other classes, stated that they had a better understanding of science as a result of the course. This result was expected as the learning cycle course was suffused with discussions of scientific reasoning. However, an unexpected result was that fully 88% of the learning cycle students (compared to 22%) responded that they had a higher opinion of scientific conclusions because of their experiences in the course. Many of the learning cycle students responded that their greater appreciation of science was a result of their greater insight into scientific methods. Improved attitudes of our students toward science may facilitate our achievement of scientific literacy and improve our ability to attract and retain science students (Hufford, 1990).

"Students in the learning cycle class had post-test scores that were 19.4% higher than those of students from other classes."

Learning cycle instruction is demanding on instructors. Lab write-ups provided to students are purposely kept very simple to encourage creativity. Therefore, it is

incumbent upon the instructor to provide much of the information at the appropriate point in the learning cycle. Good classroom discussions are essential to success of learning cycle instruction. Instructors must ensure the participation and cooperation of all students. Learning cycle instructors will have to break the bad habits most students have. Many students will resist the requirements that they think, especially the "just-tell-me-what-to-memorize-so-I-can-pass-the-tests" students. Efforts will occasionally be necessary to engage advanced students who are bored with the slower progress of other students. To be maximally effective, learning cycle instruction requires adjustments of our teaching styles including lectures, testing materials, and grading systems. Many instructors will resist these requirements.

"Many students will resist the requirements that they think, especially the "just-tell-me-what-to-memorize-so-I-can-pass-the-tests" students."

Learning cycle instruction can be a very rewarding experience. Experiencing the varied roles of lecturer, facilitator, and co-investigator is stimulating. Experiencing student curiosity, involvement, and enthusiasm is refreshing. Experiencing improvements in student reasoning skills and attitudes toward science is encouraging. The potential rewards of learning cycle instruction justify its further consideration for the improvement of science education.

I gratefully acknowledge Tony Lawson and Sandra Meyer of Arizona State University for introducing me to learning cycle instruction and the faculty and staff of the Life Science Department at Mesa Community College for their support during the study.

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SETTING THE TONE

CREATING AND MAINTAINING A SUPPORTIVE ENVIRONMENT WITH THE ADULT LEARNER

RENE DIAZ-LEFEBVRE

Studies of college teaching support the view that the frequency and quality of a teacher's contact with students, inside and outside the classroom, affect students' involvement in their own learning. Positive teacher-student relations have been linked to students' satisfaction with college, their educational aspirations, and their academic achievement. When adult students perceive their teachers as partners in the educational process, they are more likely to take on new challenging tasks (Ellner & Barnes, 1983). I have listed below some things I do to establish positive relations with students.

The Welcome Letter: Saying It in a Different Way

During the first class session, students enrolled in my Psychology 101 classes receive a personalized letter. The letter (on college stationary) is titled "Welcome to Rio Salado Community College and the Exciting World of Psychology!" The letter highlights new information and research in applied psychology, the nature of the teaching/learning process, and research on the adult learner. In closing, the letter indicates my pleasure in having them in class. Attached to the letter is a more traditional course outline (weekly assignments, test dates, projects and presentations, grading and evaluation). As students read their letters, baroque or classical music is playing in the background. According to research, baroque music, with its stable composition and unique rhythmical structure, is particularly conducive for stress-reduction and productivity (Summer, 1981).

Students' Interest Cards: "Why I'm Here"

After receiving the course outline and answering questions students may have on **my** expectations and goals for the class, I ask students to write **their** goals and expectations. Each student is given a 3"x5" index card and states "Why I'm taking the class." The information on each student gives me an opportunity to learn more about students' interests in psychology and to attempt to incorporate their interests into chapter and class discussions.

Positive Postcards

Feedback is information about current performance that can be used to improve or enhance future performance. In helping adult students attribute their success in the course to their ability and their effort, I periodically send each student (two or three times a semester) a postcard to challenge, acknowledge and reward effort for success. Some of the comments could be: "Great to see your hard work pay off." "I know a lot of perseverance went into this project." "Your knowledge and understanding is apparent in your writing." On the other hand, the postcard allows me to acknowledge a student whose performance could be better. Appropriate comments may be: "I realize you may be disappointed with your score on Study Guide No. 2, but my honest estimate of your performance is that with continued effort you can definitely improve. Come by my office and we can review a game plan." By using tact, I let students know that I believe in their ability to learn; I recognize areas where they can improve; I invite them to realize their power and responsibility in the learning task; and I offer my time to clarify and review difficult, unsuccessful learning outcomes.

Students have reacted positively upon receiving the postcards. One woman came up to me one night in class exclaiming, "Look, my daughter received a similar card from her third grade teacher. Now both cards are on the refrigerator door!"

Conclusion

The Welcome Letter, Student Interest Cards, and Positive Postcards are techniques applicable to other disciplines according to instructor and student needs. Granted, it does ask more of an instructor's time and effort, but the pay-off for students and instructor is very rewarding!

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LOCAL RESOURCES ON
CRITICAL THINKING:
A SELECTED, ANNOTATED BIBLIOGRAPHY

Jill R. Seymour

The purpose of this paper is to provide a selected, annotated bibliography of local resources on the subject of critical thinking published in the last 5 years. Particular emphasis was placed on identifying those materials related to instruction in the Maricopa Community Colleges. To locate these materials, the author used the library catalogs of the Maricopa Community Colleges, Arizona State University (ASU, ASU WEST), and the public libraries of Phoenix (PPL), Glendale (GPL), Scottsdale (SPL), Mesa (MPL), and Tempe (TPL). In addition, *Education Index* and *ERIC CD-ROM Index* were also checked for related materials. So much has been written on this subject that it is impossible to include everything here. A more complete listing of materials can be received by contacting the author.

Arons, A.B. (1985). Critical thinking and the baccalaureate curriculum. *Liberal Education, 71*, 141-157. (ASU, ASU West)
The author provides rationale for teaching critical thinking across the curriculum. After describing some of the problems existent in students' learning of critical thinking, Arons concludes with a suggestion of how faculty might assist each other in designing units that would teach critical thinking skills.

Bandman, E.L., & Bandman, B. (1988). *Critical thinking in nursing*. Norwalk, Conn.: Appleton & Lange. (ASU West, MPL, PPL)
"The purpose of this book is to identify and strengthen the critical thinking skills of nurses by demonstrating the role of scientific reasoning, logic and philosophy in increasing the effectiveness of the nursing process, and everyday nursing decisions" (p.xi). Designed as a text on critical thinking for nurses, each chapter begins with a list of learning objectives. Many chapters include exercises.

Brookfield, S. (1987). *Developing critical thinkers: Challenging adults to explore alternative ways of thinking and acting*. San Francisco: Jossey-Bass. (GCC, GWCC, PCC, MCC, RSCC, SCC, ASU, ASU West, PPL, SPL)
The author, Director of the Center for Adult Education at Teachers College, Columbia University, has divided this volume into three parts: (1) understanding critical thinking in adult life, (2) practical approaches for developing critical thinkers, and (3) helping adults learn to think critically in different arenas of life.

Brown, W., & Leon, J.J. (1986). An approach to questioning as a teaching and learning method in sociology. *College Student Journal, 20*, 110-114. (GCC, ASU West)
The authors present a model for using the questioning method in teaching sociology.

Brown, M.N., & Litwin, J.L. (1987). Critical thinking in the sociology classroom: Facilitating movement from vague objective to explicit achievement. *Teaching Sociology, 15*, 384-391. (PVCCC, ASU, ASU West)
The authors recommend that practices which encourage students to think critically need to be fully integrated throughout the sociology curriculum. They then provide specific suggestions for classroom behavior, curriculum materials, and evaluation techniques.

Carpenter, C.B., & Doig, J.C. (1988). Assessing critical thinking across the curriculum. In J.H. McMillan (Ed.), *New directions for teaching and learning: No. 34. Assessing students' learning* (pp. 33-46). San Francisco, Jossey-Bass. (PVCCC, ASU, ASU West)
While focusing on techniques that can be used in all disciplines, the authors "...review assessment procedures that can be used in the classroom and on the institutional level to measure critical thinking" (p. 33).

Commeyras, M. (1989). Using literature to teach critical thinking. *Journal of Reading, 32*,703-707. (GCC, MCC, PCC, SMCC, ASU, ASU West, MPL, PPL)
The author focuses on the connection between reading and critical thinking and mentions seven critical thinking abilities that can be enhanced through literature instruction.

Evans, E.B., & Supnick, R. (1989). Evaluating evidence of critical thinking skills. *Business Education Forum, 43*,16-18. (ASU, PPL).
Using writing to evaluate critical thinking, the authors have designed a checklist which includes components of the purpose of the writing, audience analysis, coherence logic, sentence logic, parallel features, and subordinate features to assist them.

Finster, D.C. (1988). Freshmen can be taught to think creatively, not just amass information. *Chronicle of Higher Education, 34*, A40. (DIST, MCC, PVCCC, ASU, ASU West, MPL)
The author briefly describes William Perry's view of cognition in college students. Includes a discussion of developmental-instruction theory, and tells how the author, a chemistry instructor, applies both concepts in his classes.

Grant, G.E. (1988). *Teaching critical thinking.* New York: Praeger. (PVCCC, SCC, ASU, MPL)
Using knowledge gained from observing the teaching of four experienced high school teachers and reviewing the literature, the author discusses the relationship between teacher knowledge of content, their students, and themselves and the teaching of critical thinking.

Grinol, A.B. (Ed.) (1988). *Critical thinking: Reading and writing across the curriculum.* Belmont, Calif.: Wadsworth Pub. Co. (PCC, SCC)
Part one of this textbook briefly explains concepts of learning critical thinking, reading, and writing. The remainder of the volume contains short essays on many topics from the physical sciences, the social sciences, and the humanities. Each essay is supplemented by ten multiple-choice questions, evaluative essay questions, and suggestions for future discussions.

Halpern, D.F. (1989). *Thought and knowledge: An introduction to critical thinking.* Hillsdale, N.J.: L. Erlbaum Associates. (PCC, ASU West)
Designed as a textbook, each chapter includes a summary, exercises, and suggested readings. It begins with an introduction to thinking. Succeeding chapters discuss reasoning and analyzing arguments, the acquisition and retrieving of knowledge, decision making and problem solving and creative thinking.

Henk, W.E., & DeStephen, D. (1987). Course uses thinking as thread in communication. *Journalism Educator, 42*, 38-41. (ASU, ASU West)
The authors describe a mass communication course they have developed in which they teach critical thinking skills. Included are specific exercises and assignments.

Klemp, G.O. (1988). The meaning of success: A view from outside the academy. *Liberal Education, 74*, 37-41. (ASU)
The author, president of an organization specializing in human resource management, discusses the three skills — cognitive, interpersonal, and intrapersonal — which contribute to job success.

Kloss, R.J. (1988). Towards asking the right questions: The beautiful, the pretty, and the big messy ones. *Clearing House, 61*, 245-248. (SMCC, ASU, ASU West, MPL)
The author begins by briefly reviewing the literature as it relates to the kinds of questions teachers ask their students. He follows with two examples from a literature unit of how an instructor might include questions that encourage higher-order thinking skills. He concludes by emphasizing the importance of employing the inquiry method in teaching.

Kurfiss, J.G. (1988). *Critical thinking: Theory, research, practice, and possibilities.* College Station, TX.: Association for the Study of Higher Education. (CGCCC, ASU)
The author discusses the three perspectives — argument skills, cognitive process, and intellectual development — on critical thinking discovered in a survey of the literature. She also describes many programs and courses which teach critical thinking skills. A list of references is included.

Kurfiss, J.G. (1989). Helping faculty foster students' critical thinking in the disciplines. In A.F. Lucas (Ed.), *New directions for teaching and learning: No. 37. The department chairperson's role in enhancing college teaching* (pp. 41-50). San Francisco: Jossey-Bass (PVCCC)
Kurfiss comments briefly on the critical thinking ability of students and Perry's four levels of cognition in college students. She suggests some mechanisms for teaching critical thinking across disciplines and concludes with a discussion of the role of the department chairperson in encouraging teaching critical thinking.

Mayes, C. (1987). Five critical thinking strategies for adult basic education learners. *Lifelong Learning, 10*, 11-13, 25. (PCC, ASU, ASU West, MPL, PPL)
"This article presents five critical thinking strategies that can be used to increase critical thinking skills among adult basic education learners. The five strategies are analogy, comprehension-monitoring, student-constructed questions, gloss, and keyword methods of learning vocabulary words" (p.11).

McMillen, L. (1986). Many professors now start at the beginning by teaching their students how to think. *Chronicle of Higher Education, 32*, 23-25. (MCC, PVCCC, ASU, ASU West, MPL)
Discusses the need for students to be taught critical thinking skills, and describes how several colleges and instructors are addressing this need.

McWhorter, K.T. (1988). *Study and thinking skills in college*. Glenview, IL: Scott, Foresman. (SCC, SMCC, MPL)
Designed as a textbook to assist students in learning the skills needed for success in college, it includes critical thinking and problem solving skills as well as the thinking/writing relationship and self-assessment of thinking and study skills.

Meyers, C. (1986). *Teaching students to think critically: A guide for faculty in all disciplines*. San Francisco: Jossey-Bass. (GCC, GWCC, MCC, RSCC, SMCC)
Advocating the teaching of critical thinking across the curriculum, Meyers presents several steps for accomplishing this goal. Some of the steps given involve fostering student interest, structuring classes to facilitate critical thinking, and designing effective written assignments.

Norris, S.P. (1986). Evaluating critical thinking ability. *History and Social Science Teacher, 21*, 135-146. (ASU)
Norris begins with a brief discussion of several concepts related to evaluating critical thinking. In the article he considers how information is collected, such as the Cornell Critical Thinking Test, and the Watson-Glaser Critical Thinking Appraisal, and concludes with comments concerning how this information can be used.

Novak, J.A., & Dettloff, J.M. (1989). Developing critical-thinking skills in community college students. *Journal of College Science Thinking, 19*, 22-25. (ASU Noble)
The authors, two biology instructors, describe two methods they have designed for assisting students to develop higher-order thinking skills, the task analysis, and the long-term investigation.

Page, H.W. (1985). *Teaching critical thinking in the English literature survey courses*. (ERIC Document Reproduction Service No. ED 272 896) (ASU, ASU West)
Page surveys Piaget's, Perry's and Basseches' theories of adult cognitive development. She describes how knowledge of these theories and students' learning styles can assist instructors in designing classes in English literature that assist students in developing critical thinking skills

Page, H.W. (1988). Literature across the college curriculum. *Journal of Reading, 31*, 520-524. (GCC, MCC, SMC, ASU, ASU West, MPL, PPL)
In this essay instructors describe how they have incorporated the use of literature into their non-English classes to assist students in learning both subject matter and critical thinking skills.

Pintrich, P.R. (1988). Student learning and college teaching, In R.E. Young & K.E. Eble (Eds.), *New directions for teaching and learning: No 33. College teaching and learning: preparing for new commitments* (pp. 71-86). San Francisco: Jossey-Bass (PVCCC)
After presenting the three general themes that are prevalent in research on cognition and student learning, the author describes recent findings from research on students' knowledge, learning strategies, and critical thinking.

Presseisen, B.Z. (1988). *At-risk students and thinking: Perspectives from research*. Washington, DC: National Education Association; Philadelphia, PA: Research for Better Schools. (PCC)
While this focuses on at-risk students and critical thinking from an elementary and secondary school perspective, the concepts discussed here may carry over to work with students in post-secondary education. Some of these concepts involve learning and assisted performance, intellectual assessment, and strategies to help teachers empower at-risk students.

Ruggiero, V.R. (1988). *The art of thinking: A guide to critical and creative thought* (2nd ed.). New York: Harper & Row. (RSCC, SCC)
A textbook for teaching thinking, it is divided into four sections: 1) awareness of the thinking process, 2) the relationship between creativity and thinking, 3) critical thinking, and 4) the art of persuasion.

Ruggiero, V.R. (1988). *Teaching thinking across the curriculum*. New York: Harper & Row. (PCC, ASU, ASU West)
The goal of this book is to assist instructors in understanding the theory of thinking in-

struction and to provide some assignment and thinking exercises which may be adapted for use in various content classrooms. It also includes a chapter on the assessment of students' thinking skills.

Sheridan, J.J. (1987). Teaching thinking: The mission of the humanities. *Community, Technical and Junior College Journal, 58*, 18-21. (GCC, GWC, MCC, PCC, PVCCC, SCC, SMCC, ASU, ASU West, PPL)
Sheridan, an English professor, argues that the process of thinking ought to be taught in humanities classes. He then describes various techniques, such as metaphor journals, free-writing, Plus, Minus, Interesting (PMI), and Alternative Ways of Looking (AWOL), which he has used to teach thinking.

Silberman, R. (Ed.). (1988). Symposium on critical thinking and consumer chemistry. *Journal of Chemical Education, 65*, 204-218. (MCC, ASU, ASU West, MPL, PPL)
In this symposium, eight authors provide support for the use of consumer chemistry to foster critical thinking. For example, one article explains how students apply chemistry principles to evaluate claims made in advertisements.

Sternberg, R.J. (1986). *Critical thinking: Its nature, measurement, and improvement.* Washington, DC: National Institute of Education. (ERIC Document Reproduction Service No. ED 272 882) (ASU, ASU West)
Sternberg defines critical thinking as "...the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts" (p. 2). He describes the philosophical, and educational tradition of critical thinking and mentions various tests of critical thinking which have their origins in the three different traditions. He concludes by describing various programs which have been developed for teaching critical thinking.

Stice, J.E. (Ed.). (1987). *New directions for teaching and learning: No. 30. Developing critical thinking and problem-solving abilities.* San Francisco: Jossey-Bass. (PCC, PVCCC, RSCC, SMCC, ASU, ASU West)
This volume focuses on teaching problem solving. Seven essays, written by professionals involved in teaching these skills, provide practical suggestions for accomplishing this goal.

Taylor, W.M. (1987). *Political science 202: International relations: Writing assignments.* (ERIC Document Reproduction Service No. ED 284 626) (ASU, ASU West)
The author provides five writing assignments, geared to the content of a community college course on international relations, which Taylor uses to teach his students to think critically. Included also are explanations of each assignment which he provides to his class.

Wilcox, R.T. (1988). Teaching thinking while exploring educational controversies. *Clearing House, 62*, 161-164. (SMCC, ASU, ASU West, MPL)
The author, an education professor, provides seven recommendations for teaching thinking skills. They are: 1) make minimal use of the lecture method of teaching; 2) teach it as part of the content area; 3) require interaction between the teacher and the student or between students; 4) teachers should present both their own and others' opinions and identify them clearly as such; 5) modify grading practices to encourage an atmosphere of trust and freedom of expression; 6) pare content courses to essentials to allow time to employ interactive methods; and 7) students should be required to express themselves clearly in the written form.

Jill R. Seymour is the Director of Learning Resources at Paradise Valley Community College. After earning an AS in Legal Secretarial Science from Northwestern Connecticut Community College and a BA in History from Southern Connecticut State University, Seymour went to the State University of New York at Albany where she acquired her MLS. A member of the American Library Association and the Arizona State Library Association, Seymour joined the Maricopa Community Colleges in 1984.

MARICOPA
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VISION '96

The Maricopa Community College Journal of Teaching and Learning

Statement of Purpose

Vision '90: The Maricopa Community Colleges' Journal of Teaching and Learning provides a forum for faculty and staff to exchange information about effective teaching and learning strategies. We encourage faculty and staff to submit articles on teaching, learning, and classroom research including those describing programs, projects and research activities across the curriculum at the community college level. Articles may be research-based or may result from practical experience in the classroom. The language of all articles should be accessible to faculty outside the author's discipline.

Articles are either accepted, accepted with revisions, or not accepted based on the relevance of their content and style to the journal's statement of purpose. For details on manuscript, see the Writer's Guidelines on page 34. For further information, write the editor at:

VISION
Maricopa Community College District
Maricopa Center for Learning and Instruction
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Phoenix, Arizona 85034

or call 392-2462 and ask for a *Vision* staffer. The journal is published two times a year. Points of view published herein may not reflect the opinions of the MCCD, except where stated.

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The Maricopa Community Colleges Journal of Teaching and Learning

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INTRODUCTION

Billie Hughes has recently taken a faculty position at Phoenix College. With her foresight and leadership, *Vision* has become a reality and a testament to the many excellent teaching and learning ideas and activities that exist in our district.

The Maricopa Center for Learning and Instruction is continuing its commitment and support to the journal and its editorial board. Among several district-wide agendas to improve teaching and learning, the Center works to ensure collegiality and professional growth among faculty and administrators as well as to foster new and different instructional innovation. *Vision '90* provides this opportunity.

As the Director for the Maricopa Center for Learning and Instruction, I am enthused about being part of the *Vision* editorial board. I also look forward to perpetuating the direction that Billie Hughes provided to this effort and hope that I can promote and facilitate the growth and maturation of this unique and important journal.

Naomi O. Story

Notes from the Editor

Richard Malena

Welcome to the newest edition of *Vision '90: The Maricopa Community Colleges' Journal of Teaching and Learning.* Incredible as it may seem, this is the third edition of *Vision*, which in its appearance and content is continually improving.

The newest journal board members deserve much credit for this issue. Thanks for a job well done: Don Richardson, Susan Starrfield, Nancy Pittman, and Pat Medeiros. However, let me not forget the time and effort put in by other members of the board: Kathleen Murphy-Irwin, Karen Conzelman, Pat Haas, and Sheila Schumacher. Additionally, we would like to welcome Naomi Story as the new editorial consultant, replacing Billie Hughes who did an outstanding job of assisting with every aspect of the journal.

This journal issue carries on the theme of quality teaching and learning that is prevalent in our district. Articles in this issue that reflect this are "An Accelerated Approach to Accounting Basics" by Bernadine McCollum, "Writing for Reality: How to Coax Writing Out of the Classroom" by Linda Evans, and "The Electronic Forum: Linking Students to Their Future" by Cyndi Greening. Also, two intervention articles are presented that relate to teacher effectiveness and student learning motivation: "Increasing the Effectiveness of Part-Time Faculty" by John Lampignano and "'Why' Affects 'How': Student Motivations and Literacy" by Virginia V. Stahl.

Roy Amrein introduces the "Point of View" column on "Teaching Ethics." Harvey A. Turner and Edd Welsh share their perspectives on this topic as it relates to the Medical and Business areas of instruction. Please note the new column in this issue entitled "EnVision This" on page 8. This column is for all faculty, staff, and administrators to share great ideas for teaching and learning with their peers. In addition, we have added a staff-written article to our contents, featuring interdisciplinary and intercampus topics. The feature on the "Electronic Forum" is our first staff-written article. Your suggestions for topics of future staff-written articles are welcome.

Along with the success, *Vision* has had some editorial errors. One such error appeared in the last issue. The title of W. Bradley Kincaid's article should have read "Using the Learning Cycle to Teach Biology Concepts and Reasoning Skills." Personal apologies have been extended to the author; I also apologize to the readers for this error.

Let me close with two messages. First, please continue to contribute to the journal; remember ***you*** are our potential authors and only with your articles can *Vision* continue. Second, Don Richardson, of Phoenix College, will assume the editorship of your journal as of January 1991.

An Accelerated Approach to Accounting Basics

Bernadine McCollum

Can one learn the basics of accounting in eight hours without ever hearing the words "debit" or "credit"? Many seasoned adjunct accounting instructors would never believe it possible unless they, too, attended The Accounting Game, a fast-paced, eight-hour accelerated approach to understanding accounting transactions and financial statements.

The Accounting Game was featured in an article in *The Wall Street Journal* a few years ago. This author put the article in her "follow up some day" file. Over the intervening two years, she was exposed to accelerated, or activated learning concepts, through Rio Salado Community College where she teaches. Sold on the concepts, she began to think of ways to apply them in her entry level accounting classes to increase student comprehension, interest, and participation.

The Accounting Game brought it all into focus. After an explanation of the highlights of the game, the use of the concepts in courses will be detailed.

The class the author attended was sponsored by a local Certified Public Accounting firm and the majority of the attendees were their clients' staff people, data processors, salespeople, administrators, and engineers, a mixed background similar to that of entry level accounting classes.

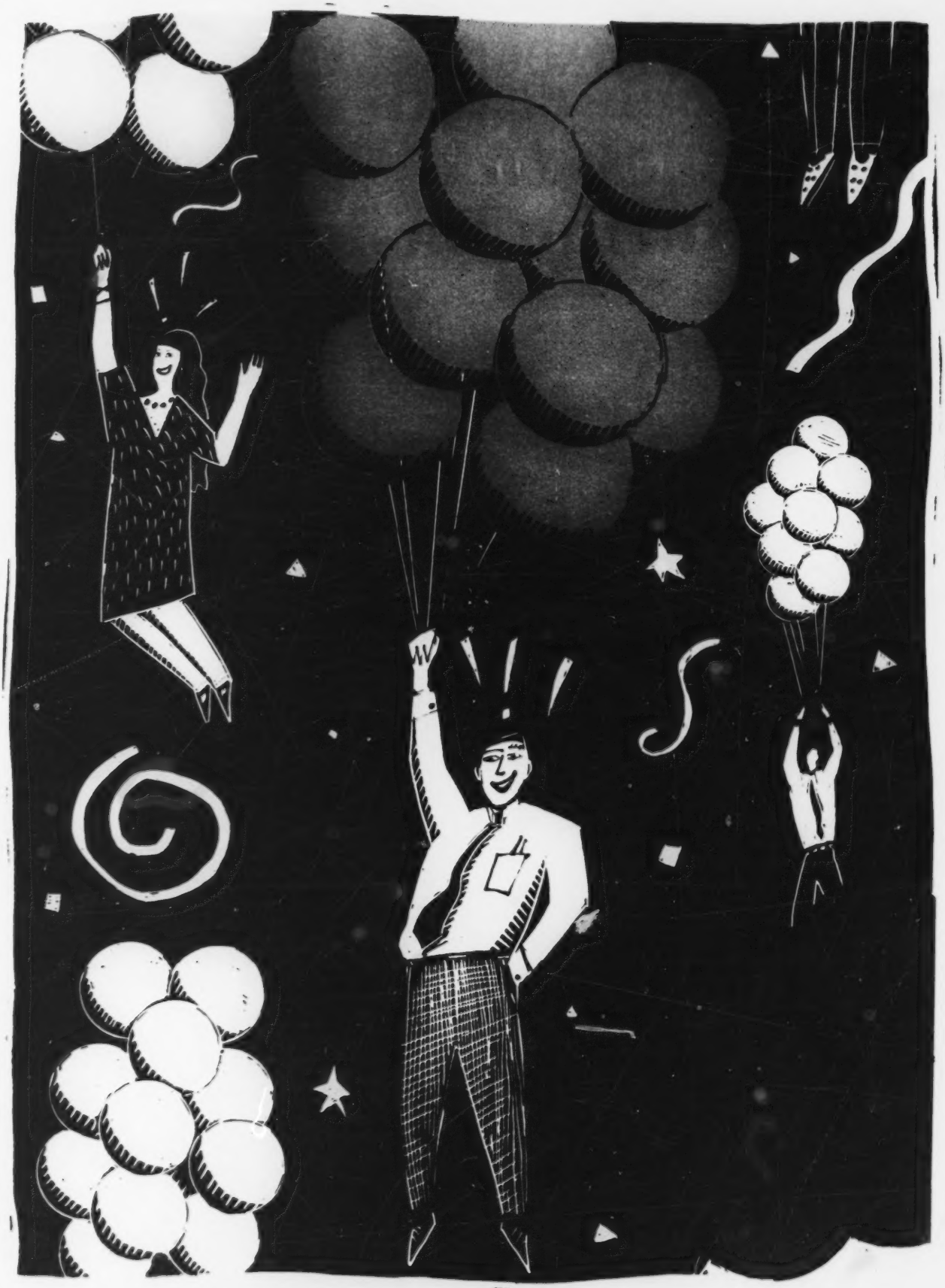
The instructor immediately captured the class's attention and started the adrenalin flowing by offering a well-worn one-hundred dollar bill to any person who asked a dumb question. If that was not a clear sign of what was in store, the game of Simon Says which followed was. The instructor guided the students through the paces of touching their noses, wiggling their ears, and so on until only one unerring student remained standing. The other twenty-six students were not punished for making errors which, of course, was the point of the whole exercise. Additional comfort came from the rainbow of balloons wafting above the tables affirming, "Our Accounting Success Is Absolutely Assured."

After Simon Says, students closed their eyes and entered a time warp of summertime in the '50s. The music "Rock Around the Clock" put them in the mood for nicknames, scooters, and lemonade stands. The instructor, under the name "Bloomers," talked "Buffy," "Eddie," "Stick," and the rest of the gang into opening a lemonade stand.

With two dollars from the piggy bank and five dollars from "Mom" to buy lemons and sugar, the gang was in business. The music was changed to a lower volume Baroque-style "1-2-3-4-count."

The "gang" sold the first lemonade, and while "Bloomers" kept score on the oversized balance sheet at the front of the room, students mapped out the accounting transactions on individual gameboards or balance sheets. Buy more lemons, subtract from cash, and add the cost to the lemon inventory. Sell lemonade, subtract from the lemonade inventory, and add to cash. Who said accounting was difficult?

After the first profitable day, "Bloomers" took a snapshot of her giant scorecard with a toy camera. At the end of the "week," "Bloomers" switched to a toy video camera to capture all of the expense and revenue activities for the income statement. "Bloomers" sang "Roll up the profits, lemons are turning to gold" to the tune of "Roll Out the Barrel," and the first week's profits



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were moved into owner's equity. With the first week history, the students took a well-deserved break.

This set the pattern for the day: fifty minutes of buying, selling, and recording followed by a closely monitored, ten-minute break, which included lemonade, of course. Before getting back to business, students stretched and bent to get their blood circulating.

The business prospered, even when the price of lemons went up a nickel and students had to worry about FIFO (first-in, first-out) and LILO (last-in, last-out) inventory evaluation. In fact, they were soon too busy to make lemonade and found that it was just as profitable to raise prices a little and buy frozen lemonade. They were on the fast track to entrepreneurial success. Lemons were turning to pots of gold every fifty minutes, even when they switched from cash to accrual accounting.

Oops! Their success quickly went to their heads. They spent almost all of their cash for a new lemonade stand and did not have enough left to buy lemons or make lemonade for the biggest event of the summer. The mean old grocer refused to sell to them on credit. Tapping their collective creativity, they wriggled out of the tight spot but learned a valuable lesson about cash flow and the joys of leasing versus buying.

Reality struck when the students had to pay taxes on their profit. One student came very close to winning the hundred dollars when he asked whether profits were always taxed.

They rolled the final transaction into their financial statements, cheered their successful venture into history, and transported themselves back to the '90s.

The truth written on the brightly colored posters in their peripheral vision reminded them that "Accounting is fun, easy and creative," and was validated when they re-took the ten question pre-test. The group average leaped from sixty-eight to ninety-seven percent.

"Pomp and Circumstance" echoed their success as each student received a sincere handshake and a suitable-for-framing diploma. No one won the hundred dollars.

This student, however, did develop four ideas for incorporating activated learning principles into basic accounting classes. First, students stand and stretch, bend, and take three or four deep breaths before beginning. Since the classes meet in the evening, teachers compete with a day's worth of job, traffic, and personal stress for the students' attention. This one minute exercising helps them regain and refocus their energy.

Second, the semester begins with an abbreviated version of the lemonade stand exercise. Instead of gameboards, students use scorecards with pre-labeled T-accounts. This eases the transition into debits and credits. The gameboard concept also satisfies the needs of different learning styles, i.e. audio instructions and explanations, visual demonstration of how the transactions look, and a kinesthetic experience of entering the dollars in the correct columns.

The third idea is to give five-question pre- and post-quizzes covering the key concepts emphasized during each class session. This assists the students to focus on the concepts that remain unclear and provides positive, immediate reinforcement. Baroque music played during the quizzes and also during the formal tests helps ease the students' nerves.

The final idea is to display several posters to convey accounting principles or equations using a cartoon format, some which state truisms like, "Genius is ninety-nine percent perspiration and one percent inspiration," and other posters which depict a picture of a mountain or a pastoral setting. Two or three posters are used as peripherals to set a mood for each class session. The posters are not referred to unless students ask questions about them.

Over time, experimentation and student input will help determine which activated learning techniques work best. The end results should increase student interest and put the element of ***fun*** back into the fundamentals.

Bernadine McCollum graduated from San Jose State University with a BS in Business Administration-Accounting, and later received a MBA from Golden Gate University. She began teaching accounting and small business classes part-time for Rio Salado-North in 1986 and became the Accounting Discipline Specialist in 1989. Bernadine McCollum also taught at Paradise Valley Community College when the new campus opened in 1988. This April, she was awarded an Outstanding Faculty Award from Rio Salado. Aside from teaching, Bernadine is also working on her doctorate from Nova University and is the Arizona Site Federal Programs Accounting Manager for Intel Corporation.

Introducing a new regular feature of *Vision*!

EN VISION THIS

Projects, Programs and Pointers from your Peers

Each of you is an innovator in your own classroom or office. You have new strategies for teaching, managing your work, and stimulating student enthusiasm, involvement and commitment. "EnVision This" provides a forum for you to exchange and discuss those ideas with your MCCD colleagues as well as other educators throughout the country.

To introduce our new column, this issue features contributions from members of the* Vision *editorial board. We look forward to your contributions in the spring/summer issue.

VISUAL AIDS IN AN INSTANT

In less than one hour, an instructor can make a complete set of lecture slides using Polaroid Instant Slide Film. In addition to a camera and copy stand, the only supplies required are Polaroid slide film ($12.00 per 36 exposures), Polaroid slide holders ($5.00 per 100), Polaroid developer ($100.00) and slide mounter ($25.00). This process is relatively inexpensive (the prices quoted here are estimates based on volume discounts) and allows anyone to create customized visual aids quickly and easily.

Kathleen Murphy-Irwin
Gateway Community College

KEEPING CURRENT

I teach a biology class for non-major students. Many of my students start each term convinced that the course is nothing more than a requirement they must survive to get a degree, and many believe they dislike science so much that they have postponed taking the class for many semesters. It is my goal, therefore, not only to convey the information of general biology, but also to help my students see the relevance of biology to their daily lives, to help them develop deductive reasoning skills, and to think critically about scientific issues and problems.

This semester, I have asked my students to find articles in the newspaper each week that relate to biology and to summarize and comment on them. My objectives with this assignment were to help the students see the relevance of the concepts they were learning in class to their life outside the classroom, to encourage students to write about biology,and to develop critical reading and writing skills. So far, I have been very pleased with the outcome.

Some unexpected benefits of the assignment for me have been that it is helping me stay aware of new information in my own field, of the accuracy of scientific coverage in the media, and of the public's perception and understanding of scientific issues. Next se-

mester, I plan to implement the same approach using the electronic forum (featured on page 16 of this issue) so that students will also be able to engage anonymously in on-going discussions of the articles and the issues they raise with their classmates and me.

Karen A. Conzelman
Glendale Community College

THE MEDIUM IS THE MESSAGE

Motivating the students in any pre-100 level class is challenging in these days of apparently never-ending gratification, yet as teachers we have committed ourselves to this task, and some of us still accept the challenge with eagerness and enthusiasm. Reading Improvement, for example, posits the hypothesis that students who have earned below acceptable test scores can be raised to a satisfactory level for successful college course completion.

Assigned to teach RDG 081 (Reading Improvement), I asked myself, "How can I cause students to apply what they learn from the textbook and in the classroom to their other non-textual reading in the outside world?" The answer I arrived at was to assign them a reading project which requires them to report on content generally and words specifically which they find in non-traditional publications. Thus, they are required to research publications which people in society apparently take little note of except as directly applicable to their daily lives. These publications include cereal boxes, T-shirts, caps, bumper stickers, personalized license plates, computer advertisements, jogging shoe advertisements, billboards, posters, grocery store fliers, record albums, rap music lyrics, campaign slogans and rhetoric, greeting cards, product names in a grocery store, buttons, fast-food product names, and new car advertisements.

I allowed the students two weeks to do their research and to prepare a report of no more than three pages. Then we used a class period to allow them to present their findings, either read or summarized, to their classmates. Naturally the levels of presentation were quite varied, but overall I believe we all learned that reading is not restricted to the traditional forms of textbooks and it is important in all forms of written communication. An attendant benefit is that they came to know each other better, and we established a common purpose for the class.

Don Richardson
Phoenix Community College

CHECK THIS OUT

Most composition teachers are deeply committed to the necessity for reading carefully and responding comprehensively to students' writing; however, the sheer size of a stack of freshman essays usually makes it impossible to give the kind of detailed response students need. To help deal with this problem, my colleague Clara Fendley and I have adapted an idea from Karen Schwalm (GCC): a checklist that is attached to each essay. Other instructors use the system in a variety of ways, but on my checklist are listed ten items, which may change with each specific essay type. (For example, the comparison/contrast checklist rates the "consistent methodology" and the checklist for the exemplification essay rates the number and appropriateness of the examples.) In addition, all essays are rated for the aspects of sentence structure, spelling, and other mechanics. Within each item, the paper is ranked from one to ten, ten being the best.

Thus, I can very quickly give a great deal of information by assigning a rating for each of the ten items; adding up the scores yields the stu-

dent's grade on a hundred-point scale. Of course, I still write comments on the paper itself, but the checklist conveys information on all ten items. Now when a student comes to me to ask, "What did I do wrong on this essay?" my first response is, "Let's look at the grading sheet." It is usually very easy to pinpoint the specific areas that need further attention. Incidentally, this is also a valuable way to reinforce the importance of proofreading because the student can see at a glance that a paper that was otherwise fairly strong received a lower grade because of spelling or mechanical errors.

Pat Medeiros
Scottsdale Community College

GETTING TO KNOW YOU

Students enjoy meeting each other in class, and introductions facilitate class bonding and the establishment of a community environment. At the first meeting, I ask my students to bring something to the next class which tells the group about themselves. In the past, students have brought such things as volleyballs, credit cards, golf tees, and family photos. This exercise breaks the ice and often forms new alliances. I find this is a far more interesting and effective way to get to know class members than the old standard, "Stand up and tell us your name and major."

Kathleen Murphy-Irwin
Gateway Community College

In order to establish some class unity or identification early in the semester, I have my students get to know each other by using the following. Instead of having them introduce themselves, I have them introduce each other. I do this by pairing them up. Then each of the students in the pair gets to know the other student. They must learn the student's name, what high school they've graduated from (if appropriate), what the student's major is (if the student knows) and some piece of general information about the student (hobby, etc.). This takes about 5-10 minutes. Then we go around the room and each pair of students stands and introduces each other. This helps the shy students to get over their initial fear of being in a new and strange environment. All students seem to enjoy this tension reliever. I like it because it helps me to put names and faces together on the first day of class. It also helps to establish a team attitude, and it is easier to get cooperation among the students during the semester because they are not complete strangers.

Pat Haas
Glendale Community College

SCHOOLWORK ON TRIAL

A classroom activity which requires students to prepare using research skills, and then to perform using expository skills is that of the "mock trial." Students put famous historical figures on trial with members of the class performing as judge, jurors, prosecutor, defendant, witnesses, and counsel for the defense. Class members can use exhibits, props, and costumes if they wish. At the end of the trial, the jury reaches its verdict. The mock trial is participatory democracy in action.

Group work in the classroom helps form a cohesive bond of dependence on peers and team spirit. By suggesting a role for each member, such as that of researcher, recorder, archivist, or illustrator, everyone can be involved on the team in a meaningful way. Group work can be included in the teaching of a variety of disciplines. For example, students can be asked to work in groups during laboratory exercises in science, in preparing reports for the social sciences and languages, and in solving math problems. Creative final reports such as skits, songs and po-

ems, games, puppet shows, questionnaires, visual aids, or simulation exercises, can get students more personally involved in their work and make their presentations more vivid.

Susan L. Starrfield
South Mountain Community College

PLAYING WITH A PURPOSE

Several of us have found value in modifying established board games or game shows for our classrooms. High levels of class participation and academic motivation are two of the advantages we have found using this strategy to review course material or to informally examine learning and comprehension.

Kathleen Murphy-Irwin, Gateway Community College, has adapted the rules of Trivial Pursuit® to her medical technology courses. Instead of winning "game pieces" in the categories of Geography, History, Entertainment, or Sports and Leisure, her students attempt questions in "Blood Vessels," "Tissues," "Diseases," or "Organs." The simple structure of the game allows it to be used easily in a variety of courses and throughout the semester. There are a number of payoffs from such a relaxed and fun teaching strategy. Knowing that their team members are counting on them often encourages students to study hard in preparation for the game day. Furthermore, in a competitive environment like this, students tend to demand tremendous accuracy from their rival classmates, and thus pay close attention to every question and response. Being part of a team also helps to bond students as a group.

A colleague at GWCC, **Sheila Schumacher** has found Trivial Pursuit® similarly useful in her advertising art and computer illustration classes. Another game she has used successfully is Pictionary®, a drawing game suitable not only for art courses but for any discipline with new vocabulary or terminology.

Karen Conzelman, Glendale Community College, not only involves the students in the game itself but also in helping to write the questions. Trying to stump their opponents provides ample motivation for a thorough review of the material and the preparation of some thoughtful questions. This approach effortlessly encourages students to think about the course material in a different way. It also develops or strengthens their higher level thinking and reasoning skills.

The playing board from the game Hands Down® provides an indisputable and inexpensive way to identify the player who gets to attempt each question first. As the players "ring in" they press on a numbered plastic hand. The sequence of players is identified by the stack of numbered hands.

To share your educational projects, programs, and pointers, submit a 1-3 paragraph description to the following address:

EnVision This
c/o Editor, *Vision '91*
Maricopa Community Colleges
Maricopa Center for Learning & Instruction
3910 East Washington Street
Phoenix, Arizona 85034

Central to the discussions about student achievement in the classroom are the motivations that students bring to the classroom and the demands imposed by instructors. The literacy study conducted by Arizona State University at one of the MCCD colleges, among others, has pointed out that students operate under a different set of assumptions than the instructors about the purpose of higher education, the nature of the learning process, and the responsibilities of instructors and students (Morrill and Steffy, 1980; Richardson, Fisk & Okun, 1983). In order to know what students expect and what instructors believe they should be learning, it is essential that instructors understand what motivates students to enroll in their courses.

It is also critical that motivations are recognized as states, not traits. That is, motivations are determined by situations or stages in a student's life; they may change from course to course, from semester to semester, or even from the beginning to the end of a course. Students may fit into various groups based upon their particular motivations.

Requirement Meeters

The most prevalent student group observed was labeled "Requirement Meeters." They accounted for one-half of students in the 27 classes observed. Requirement Meeters, as the name suggests, are interested in meeting course requirements as efficiently as possible. A secondary consideration is achieving good grades. However, if time constraints interfere, these students just want to acquire the credit hours.

This quote from an unstructured interview illustrates the feelings of the quintessential Requirement Meeter:

Just give me what I need to know. I'll go home and learn it. Then I'll come back and you can test me on it. Then I'll pass.

Question: What is your goal?

I don't have time to waste around. I work 30 hours a week. I have three teenagers at home. I don't have time to waste. Another Requirement Meeter reported these feelings about grades.

Question: Grades are important to you, then?

Uh huh (yes). *I've just quit my job so this is the first time that I've only had to be responsible for going to school. Up until now I haven't really had time to study since I was a sophomore in high school. In high school I had a much higher grade average. A 3.0 is kind of disappointing. I know I could have done better if I had studied. So, hopefully, now that I have extra time, my grades will be better.*

Time is mentioned often by Requirement Meeters. The demands on their time are great because they choose to add education to their other responsibilities. When the demands of home and work compete with education, they rank education third.

Because of the time pressure, Requirement Meeters tend to use class and study time efficiently. One instructor said she would test only on materials covered in class; therefore, the Requirement Meeters did not read the textbook.

I haven't read the book. Do you know that I haven't even opened that textbook?

"Why" Affects "How": Student Motivations and Literacy

Virginia V. Stahl

Not the way she lectures—I don't feel that I have to.

The class also had a lab associated with it. The instructor began each lab period by reading the directions in the lab manual, marked any changes in procedures, demonstrated how to do the experiment, and then showed slides that repeated the demonstration. The Requirement Meeters felt no need to read the lab manual, and did not. Instead of being bored with three repetitions, one said:

I like it because then I don't have to read the lab manual. It's faster and more to the point if she tells you what to do than if you sit down and read through the book on it.

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Requirement Meeters resent unnecessary or ungraded activities. One class required students to complete reports about six journal articles. These were not to be graded but were to be turned in by the end of the semester. One student said

I haven't started it yet. It won't be hard to do, but it is a waste of time. If it doesn't go for a grade, it's a waste of time.

Requirement Meeters did not ask questions except during review time or after class. They did not want to take time away from the lecture because the instructor was covering material that would be on the test, and missing any lecture material would adversely affect their grades. Requirement Meeters do not like class discussions either.

People get off on something else and waste more time than it is worth.

Knowledge Seekers

"Knowledge Seekers" were the second largest group observed. They comprised one-fourth of our respondents. As the name implies, Knowledge Seekers want to learn, and they like what they are learning. They are truly interested in the subject matter. Their attitudes are expressed in these quotes from two students from two different classes:

Psychology isn't difficult for me. I love it. I've taken every psych course they have here.

Question: What is your objective for being in this course?

I'm here because I enjoy psychology.

Question: Do you like the lab?

Yes, it is very interesting. I like looking through the microscopes even if it does make my eyes ache. It's neat when you see what she's been talking about. She'll describe something and you'll see it, and say Eureka!

Knowledge Seekers are intrinsically motivated because of their genuine interest in the subject. Their use of the textbook also differs from that of Requirement Meeters.

Question: What is the part of class that you like best?

I like reading the text best.

Question: Do you spend a lot of time reading for this class?

Oh, yes. More for this class than any other class. The reading in this class is hard, but I like it.

Knowledge Seekers spend more time on class material and find it enjoyable and beneficial. They also want more class discussions and questions because they enjoy the exchange of ideas about a favorite topic.

Specific Information Users

The "Specific Information User" expects to learn something which is related to a tangible outcome, such as job advancement, job preparation, improving the quality of life, or even doing better in other classes. The Specific Information Users, about one-fifth of the sample, clearly know what their goals are, how they will be attained, and what benefits will be derived.

Now I'm faced with having to go back to work to supplement our income, so I thought I could at least brush up on my typing and maybe learn some other skills enough that I could hopefully go into an office.

In a nutrition class, a Specific Information User said:

At least the talking part of the class brings out things you can use in daily life. Sure, it took time, but there again, it was useful information. I found out I don't eat well-balanced meals and I don't get enough calories.

Course work is seen as a means to an end. The value of the materials determines the students' use of literacy. One student who plans to become an oceanographer did read the lab manual because lab experiments would be necessary in his future studies. He also sat very quietly during lectures and asked only two questions during the semester; both pertained to microbes that live in the ocean.

Non-Specific Information Users

The "Non-Specific Information Users" want to improve their lives through job procurement, yet they are unable to determine specifically how education will assist in getting a job nor are they able to evaluate whether or not they have been successful in reaching educational goals.

Types of goals for Non-Specific Information Users are seen in these observations by a participant observer:

CHM enrolled to learn English better to get a job.

CSA enrolled to learn English. She wants English to be able to get a job where her children work.

CRH wanted to learn English to be able to work in a beauty shop and she needs to pass the cosmetology test.

The Non-Specific Information Users

rely on the instructor to tell them whether they have attained their goals; they are unable to assess their own progress.

Question: Are you ready to go on to another English class?

I don't know. The instructor hasn't told us yet.

Additional observations about Non-Specific Information Users illustrate their inability to clearly identify the ways that education will assist them in improving their lives.

Generally, the Anglo students describe their reasons for taking the course as learning to read, while the Spanish speakers give learning English as their reason. These students are in college for generally the same reason: they find themselves unable to succeed in the working world at a level they wish to. They chose to attend either because they were referred by a teacher or a friend, or simply because it was near their homes. One student came to help her daughter enroll and was herself enrolled. Most have only a general idea of what they want to do after college. Only one, and he plans to join his father's business, could be specific about this subject.

Another student, disabled by an accident, hopes to be able to resume nursing on a more advanced level than her previous training allowed.

The Non-Specific Information Users are dependent on the instructor for direction, aid, reinforcement, and evaluation. If they are capable, they will do whatever the instructor asks. They are constantly practicing writing, reading, and verbal skills: thus, they appear to use literacy more than students in higher-numbered courses.

Implications for the Classroom

Although motivational orientations are states and not traits and although students can demonstrate more than one orientation during a class, it is essential that instructors recognize the changes effected by large numbers of students who attend only to meet requirements. Among those changes are tensions caused by differing motivations among students, lowering of cognitive demands on students, and tensions caused by instructional styles.

Students interviewed during this study expressed the expectation that other students should conform to their orientations. They brand those who do not as "weird" or "odd." Requirement Meeters especially wanted conformity. They felt others were wasting their time with class discussion and questions that were not relevant to examinations which translated into grades. Requirement Meeters stressed the importance of how time is spent, and students who devoted time to their studies often appeared to be apologizing. One student considered himself an oddity and apologized by saying:

Yeah, well, I read everything. I'm probably one of the few students who do. Well, I don't work, so I lead a pretty boring life.

Knowledge Seekers and Specific Information Users view the Requirement Meeters with equal distaste.

From the classes I've observed in the past and from this class so far people have not applied themselves totally to the class. They are not behaving in a manner worthy of college students.

Question: What's a manner worthy of college students?

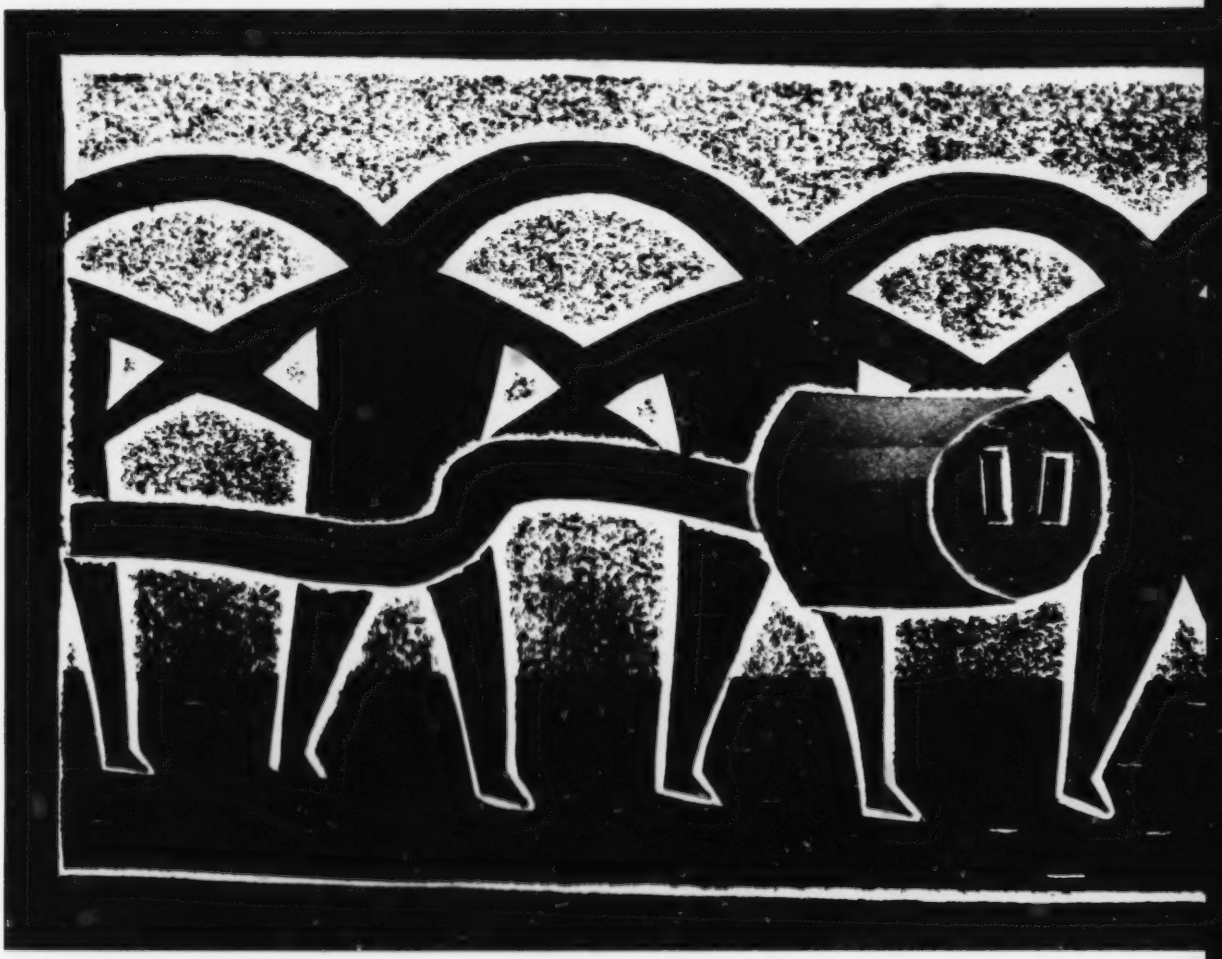
Doing the book stuff and studies. Asking questions of the teacher if I don't understand the information. Doing the lab assignments the best I can. Basically you have two groups. Some who are here because they have to be here and some who are here because they want to be here. At this point, I could almost classify them by name.

A second implication for the classroom that emerged from the study is identifying the type of literacy demanded of students. Often students were expected to learn isolated bits of information from the lecture, textbook, or study guides. Then students were expected to recognize when to use these fragments of information when given specific external cues, especially on multiple choice exams. This fragmentation and isolation of information is called "bitting" (Richardson, Fisk, & Okun, 1983).

Seldom were students expected to use "texting," which is reading, writing, and thinking about events or ideas in a broader context. Students were not taught that events are related or that one event will have impact on subsequent events. They were not required to use analysis, synthesis, or evaluation either during tests, or in writing papers. Without practice or modeling of these critical thinking skills, students cannot be expected to learn them.

A third consequence of having large numbers of Requirement Meeters in col-

Continued on page 33



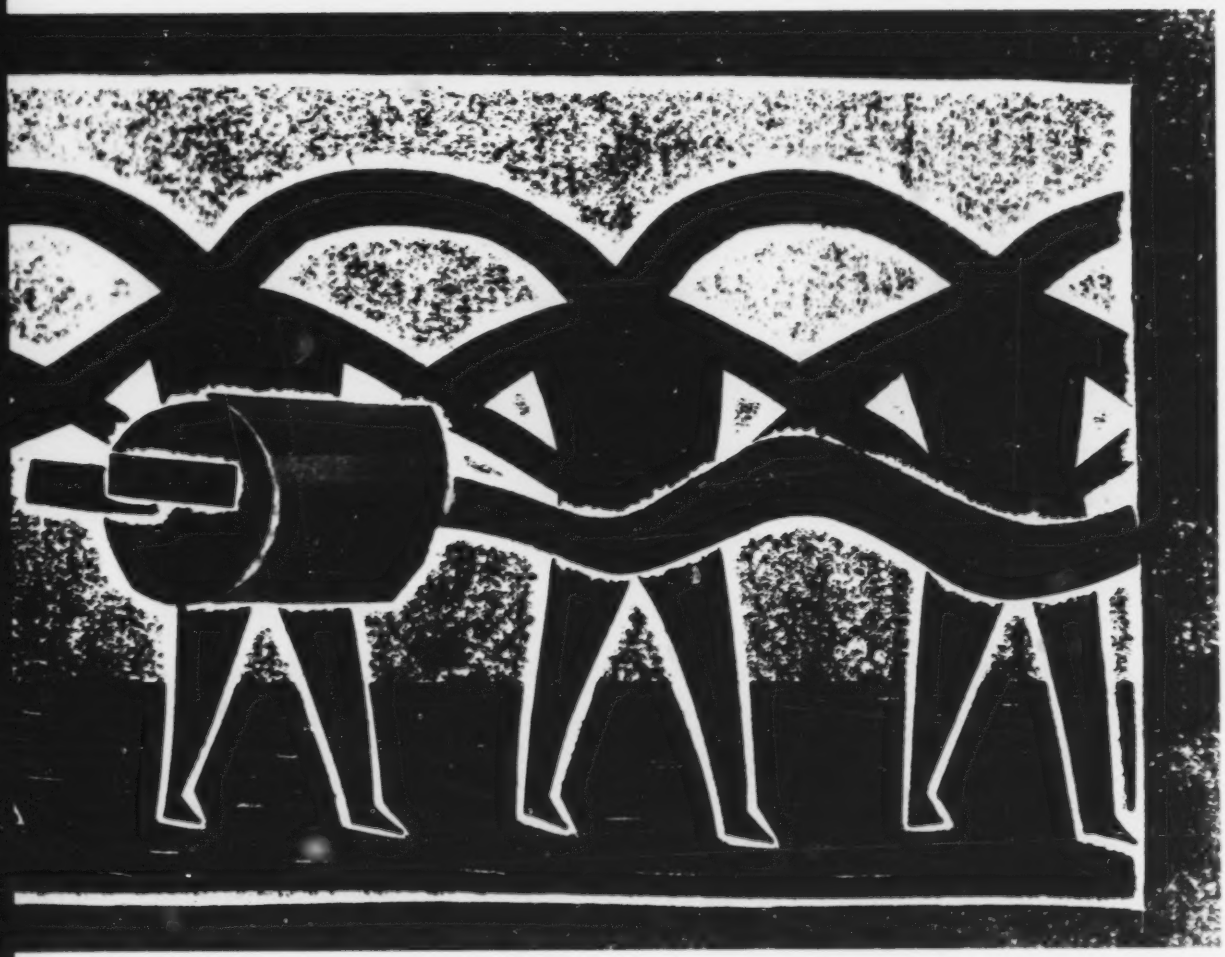
The Electronic Forum: Linking Students to their Future

Cyndi Greening

Many see education as the path for change. Without higher education, people are often limited to following in the footsteps of their family members or their peer group. Yet, as networking pundits and college recruiters will attest, the magic is not in the education alone. It is the social connections along with the education which offer most students the vehicle for life transformation.

Residential universities, with their four-year programs, sororities, fraternities, dormitories, and dining halls, naturally provide both of those components to their students. A challenge faced by community colleges is in offering similar experiences to their students, who often are not as immersed in their education and face a more delayed payoff for their efforts.

Community colleges have been very successful in providing occupational re-



training, developmental education, flexible scheduling, and alternative delivery systems to meet the unique needs of their student population. Yet their students continually grapple with several major challenges to transformation, including:

1. the more "transient population" and limited professional contacts created by commuter campuses;
2. the competing responsibilities of family and employment;
3. the inaccessibility or unavailability of social organizations and activities; and
4. the wide range of ages, experiences, interests, and outlooks of the students in each class.

Because the community college student may spend ten years or more working toward his or her goal, strategies for overcoming these obstacles to completion concern instructors and administrators everywhere.

Now, from a project developed at Glendale Community College to improve student writing skills, has come a link that has impact on these obstacles and helps to connect students to their future. It is the "Electronic Forum." The Electronic Forum, or "EF" as it is often called by its users, grew out of the "Electronic Journal," a communication experiment initiated by English instructor Karen Schwalm.

Like hundreds of other English instructors across the nation, Schwalm waged an ongoing battle with declining skill levels in verbal and written communication. Like other instructors, she wanted to offer students a means for improving those skills as a component of their course work. Facing a week that was already consumed with preparing and presenting

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course lectures, correcting assignments, evaluating writing projects, fulfilling departmental responsibilities, and serving on committees, she knew that the project would have to be easy to implement and simple to maintain. Then, she struck upon an innovative idea — the union of an old concept with a new technology.

She contacted Christopher Zagar, then the director of GCC's High Tech Center, and proposed her plan. She wanted students to keep a community "learning journal" on the computer. She reasoned that students, using pen names to ensure anonymity, could make candid entries on virtually any topic of concern in this "electronic journal." Entries could then be read

> ...the magic is not in the education alone. It is the social connections along with the education which offer most students the vehicle for life transformation...

and commented on by members of the class. This would improve their writing skills along with their reading, reasoning, and computer skills. Since the purpose of the journal was to encourage students to write, she needed to document only how many words each student had written and how often he or she wrote in the class journal.

Zagar assured her that it could be done. He created the programming to integrate the student records with the electronic journal, thereby limiting participation to a specific class. He set up reporting capabilities to document such items as the number of words per entry, journal subject areas, and writing activity by student identification number. At Schwalm's request, he also set up the journal to use the language of writing, not computing. Finally, he established the means for students to change their pen names at will.

They implemented the project that semester. For their efforts, they were selected for the *Innovator of the Year* award at Glendale Community College in the spring of 1990.

Now, three semesters later, several instructors on several campuses are using electronic journals as a component of their courses. Instructors across the disciplines are overwhelmingly enthusiastic about the benefits of the electronic journal. The benefits for the students — from the simple improvement of computer and communication skills to the difficult-to-assess effects on networking and social transformation — are surprising nearly everyone involved.

"The original purpose of the journal was to improve writing skills. It was to be writing for learning rather than writing for evaluation," said Schwalm. "What we discovered was that the journal gave a voice to *silenced* or *marginalized* students. For instance, a student who never spoke in class was very active on the journal, contributing over twenty thousand words in one semester." Citing recent research on classroom dynamics, Schwalm says findings indicate that minority, handicapped, and female students are most likely to remain *unvoiced* in the classroom. Because of social, cultural, physical, or instructor bias, these students often do not communicate, or communicate in a very limited way in the classroom. The electronic journal, she discovered, put everyone on equal footing.

Former Glendale Chief of Police Jack Rose, now a GCC administration of justice instructor, had the same findings when he implemented the electronic journal in his Current Issues in Criminal Justice course. Finding students to be reticent during discussions on local enforcement issues, Rose required students to use pen names and express their opinions on the electronic journal. Like Schwalm, he found the electronic journal to be the great equalizer. Sensitive issues such as the use of force, police misconduct, police and minority relations, and ethics of reporting were all discussed in the journal.

"The journal was very useful because it stimulated enthusiasm and honest discussion among the students, especially minority students, on a variety of issues. It also introduced students to the use of computers for communication. That's a skill they must have to work in this field," said Rose. Students were able to communicate sensitive information and legal issues in a fairly public forum, a practice common in nearly all criminal justice careers. Rose was able to give that experience to his students specifically through the use of the electronic journal, an experience he feels is vital to their future success.

Both Schwalm and Rose use the elec-

tronic journal as a learning tool. Both instructors require that students use the journal but do not grade on the content of the entries. Unlike Schwalm, however, Rose corresponds directly with students in the journal. He feels students are eager to have his response. Under the pen name of "Chief," he debates issues with his students in the journal. He challenges their assumptions and asks them to consider other aspects or points of view on a particular topic. Other students may then join the discussion.

"This stimulates their critical thinking skills and helps them to confront their personal biases and prejudices before they're in a professional position. It helps them to see that something can be legally correct even though, ethically, it's not the right thing to do," he said. Because of how easy it was to implement (Chris Zagar installed it during a telephone conversation) and the many benefits for the students, Rose says he will continue to use the electronic journal in his course.

"You have to see it happen to appreciate it," he said. That first semester, during a lecture by a guest speaker from the NAACP, the subject of the Philadelphia police action against the "MOVE" group was mentioned. In an effort to remove the black activist organization, the Philadelphia police inadvertently burned down an entire block of the city. Rose asked the students if they thought the Philadelphia police would have proceeded in the same fashion had the organization been a white activist group. There was SILENCE in the classroom. Immediately following that class, however, the electronic journal went wild.

Lee Kirkpatrick, a biology instructor at GCC, also found the electronic journal to be a "safety valve" for some students. "I decided to have my non-major students use the electronic journal for several reasons," said Kirkpatrick. "I wanted them to have the opportunity to use the vocabulary of biology outside the classroom, to have a chance to discuss quiz questions prior to exams, and to have a way for them to develop bonds with their classmates." She found that students were also using the journal to arrange study groups, to clarify difficult or confusing course material, and to vent frustrations following examinations.

"As a group, the class got friendlier, faster," Kirkpatrick said. "The journal seemed to take the place of the 'student union' when I went to college. It was a place where everyone could come together and talk about what was happening for them."

As the administrator of the "Public Forum" and her own course journals, Schwalm also sees this electronic communication as an equivalent to the student unions at many universities. Like their counterparts, the GCC students use the electronic forum when the going gets tough. They share their frustrations and draw support from others. From her vantage point, the electronic journals and the open forums provide "the glue that binds some students more securely to their education."

"What we're seeing is a lot of 'tapping on the microphone' to see if the lines are open," said Schwalm. "The content of the message often is not as important as simply finding out if someone will listen if they have something to say." Sometimes, students have a lot to say and need a safe place to say it.

...the journal seemed to take the place of the 'student union' when I went to college. It was a place where everyone could come together and talk about what was happening for them...

Stephen Cooper had that experience. He had a classroom crisis. Students in his introductory psychology course at GCC would not interact in the classroom. Cooper thought their reluctance might be a result of feeling judged or a fear of expressing their feelings in a room full of strangers. To get his students to "say anything," he had them use the electronic forum to communicate on different subjects, including the subject of death and dying. He also had them write under a pen name. "I was quite amazed at the level of sharing," said Cooper. "It was the most intimate sharing I've ever had in a 101 class. The students were able to safely share their feelings and their experiences, and other people were then able to comment and share their experiences as well. I don't think we could have done the same thing in a conventional 101 classroom." At

the end of the course, he surveyed students on the use of the electronic forum in the course. Cooper said the response was totally positive; there wasn't one negative comment.

In addition to the classroom journals, Chris Zagar and Karen Schwalm established two open electronic forums at GCC. The "Public Forum," which is administered by Schwalm, is open to everyone on campus and in the community for the discussion of anything. "The Dialogue Forum – The Forum for the Thoughtful Discussion of Anything at All," is also open to everyone but is limited to the discussion of serious subjects. Kirkpatrick administers the dialogue forum. She reveals that religion, ethics, morality, domestic violence, family abuse, the Smitty's situation (involving the death of a black man at the hands of employees at a local grocery store), and the conflict in the Middle East have all been discussed on the dialogue forum.

As semesters pass and student populations change, there are recurring subjects which appear on the dialogue forum. The most common recurrence is the controversy between religion and science. Religious beliefs (which are generally connected to the student's home life and path from the past) often come into conflict with scientific theory (on the education path which leads to the future). On the dialogue forum, other students and faculty members help these students to chart a path between their two worlds, to find agreement between their old belief systems and current learning. Tight course schedules rarely permit this type of discussion in class. On the dialogue forum, however, students discuss these deeply personal issues and get the response they need from others.

...through the public forum, both Tom's and Mary's lives were changed. Tom took responsibility for his emotional health and Mary reached out to another human being. A connection was made...

Several instructors have said the response is most important. This is also true on the two open forums. "On the surface, much of the discussion on the public forum may appear trivial," said Schwalm, "but what we're seeing is the delicate negotiations which signal the formation of new friendships. Through writing, students are learning that language has the power to change their lives. They are learning that the world responds to what they communicate." Schwalm shared a story that revealed the power of the electronic forum to affect student lives.

On the public forum, "Tom" revealed a history of family abuse and problems that he was having because of it. Several students shared their experiences and empathized with Tom. Another student, "Mary," suggested counseling services available at the campus. She said that she had seen a counselor and it had helped her tremendously. Tom was leery about going for counseling and asked Mary to take him to the counselor. Since they were communicating on an open forum, Mary was concerned for Tom's privacy. Instead of arranging a public meeting place where they could be observed by anyone who happened to be following the open forum, Mary told Tom where she worked on campus and what she was wearing that day. Mary suggested that Tom come to her whenever he was ready. He did.

Through the public forum, both Tom's and Mary's lives were changed. Tom took responsibility for his emotional health and Mary reached out to another human being. A connection was made. This is a significant benefit of the public forum. It allows and encourages students to take responsibility for their education, their lives, and their futures. It also helps them to form new bonds which open them to new paths.

Clearly, the path to the future leads from the path of the past. Schwalm sees the forum as a way to smooth those paths. The public forum allows students to bring their family members to the campus to communicate with their classmates. "Someone will write, 'my mom's here tonight so be nice.' And mom may make a journal entry on some subject," said Schwalm, "but what she really has done by writing on the forum is to help smooth the paths between generations, allowing for social mobility and change." Another student brought his high-school-age sister to correspond on the forum, helping to smooth her transition from high school student to college student.

The open forums differ from the class journals in that they are not course specif-

ic. Combining that fact with the appearance of triviality has brought the open forums under administrative concern. In the future, there may be a fee for use of the public forums or the inclusion of an electronic journal in a course.

Some feel that this might discourage instructors from using the electronic journal as a teaching tool and discourage students from taking those courses. Students would then lose a valuable opportunity for improving writing, reasoning, reading, and computer skills. They suggest the electronic forum might be better viewed as a resource similar to the library with fees for operation built into tuition. Of course, the issue of a fee for use has been

Continued on page 33

Electronic Communication in Action

The electronic forum is transforming more than the lives of the students who use it. It is also transforming the lives of the instructors who incorporate it in their teaching strategies. The benefits of the electronic forum are as diverse as the curriculum itself.

- **Biology** — Lee Kirkpatrick (GCC) uses the electronic forum to encourage students to use the language of biology, discuss course material, and practice exam questions with their classmates. She discovered they use the forum to coordinate study sessions and vent frustrations as well.
- **Child and Family Studies** — Since there isn't enough class time to allow students to recount their many personal experiences, Child and Family Studies instructor Eileen Shiff (GCC) uses the electronic forum as a means for her classes to disclose and discuss pertinent issues. This allows Shiff to spend the entire class period on CFS concepts and theories and still allows students to share their course-related experiences.
- **Criminal Justice** — Jack Rose (GCC) requires students to use the electronic forum for two reasons. First, because virtually all criminal justice professions require the electronic communication of sensitive information, he uses the electronic forum to acquaint students with that process. Second, he challenges them to discuss pertinent ethical, social, and legal issues in order to confront their personal biases, develop critical thinking skills, and develop career ethics.
- **English and Literature** — Marti Combel, Patrick Haas, and Karen Schwalm (GCC) use the electronic forum in their courses to improve writing and reasoning skills, elicit discussion on both course and non-course related topics, and stimulate student computer skills.
- **Humanities** — Lynn Ann Wojciechowicz (SMCC) uses the electronic forum in her Ideas and Values class to persuade students to practice course material and participate in dialogues on essay questions during the semester. Students must respond to each of the five course units at least twice. They can also earn extra credit for additional writings. With the use of the electronic forum, overall comprehension and grades have improved in her courses.
- **Psychology** — Stephen Cooper (GCC) uses the electronic forum to get students communicating on personal psychological issues under a pen name. He feels this also gets them into GCC's High Tech Center and working on a computer.
- **National Education Forum** — Billie Hughes (PC) is exploring the implementation and use of a national electronic forum to facilitate the exchange of teaching strategies, information, and methods among educators.
- **Reading** — Roberta Delaney (GCC) is having her students read a short story with an ambiguous ending. Each student will then write a new ending for the story. They will then read all of the endings and comment on them in the forum. She hopes this will develop reading and writing skills.

— Cyndi Greening

WRITING FOR REALITY:
How to Coax Writing Out of the Classroom

Linda Evans

In ten years of teaching writing—from traditional freshman composition courses to creative and technical writing —I have repeatedly encountered a perplexing and recurrent problem: how can I persuade my students that the skills they are learning in my classroom have valuable applications in their daily lives? How can I inspire my students to produce writing that has meaning and impact beyond the mere fulfillment of an academic requirement? In other words, how can I persuade my students to write for ***themselves*** and not for me?

The fault does not rest with the students. By the time they reach college, most students have discovered—either intuitively or through a series of hard knocks—that the path of least resistance through many classes is to absorb with magnificent passivity what the teacher believes and to be prepared at a moment's notice to reiterate the teacher's values and opinions. Students are conditioned to suppress their own creativity, their own knowledge and beliefs about the world in order to make the grade. (Educator and psychologist Jess Lair notes that a student with a perfect grade point average may not be so much a genius as a person who has learned to "play dead.")

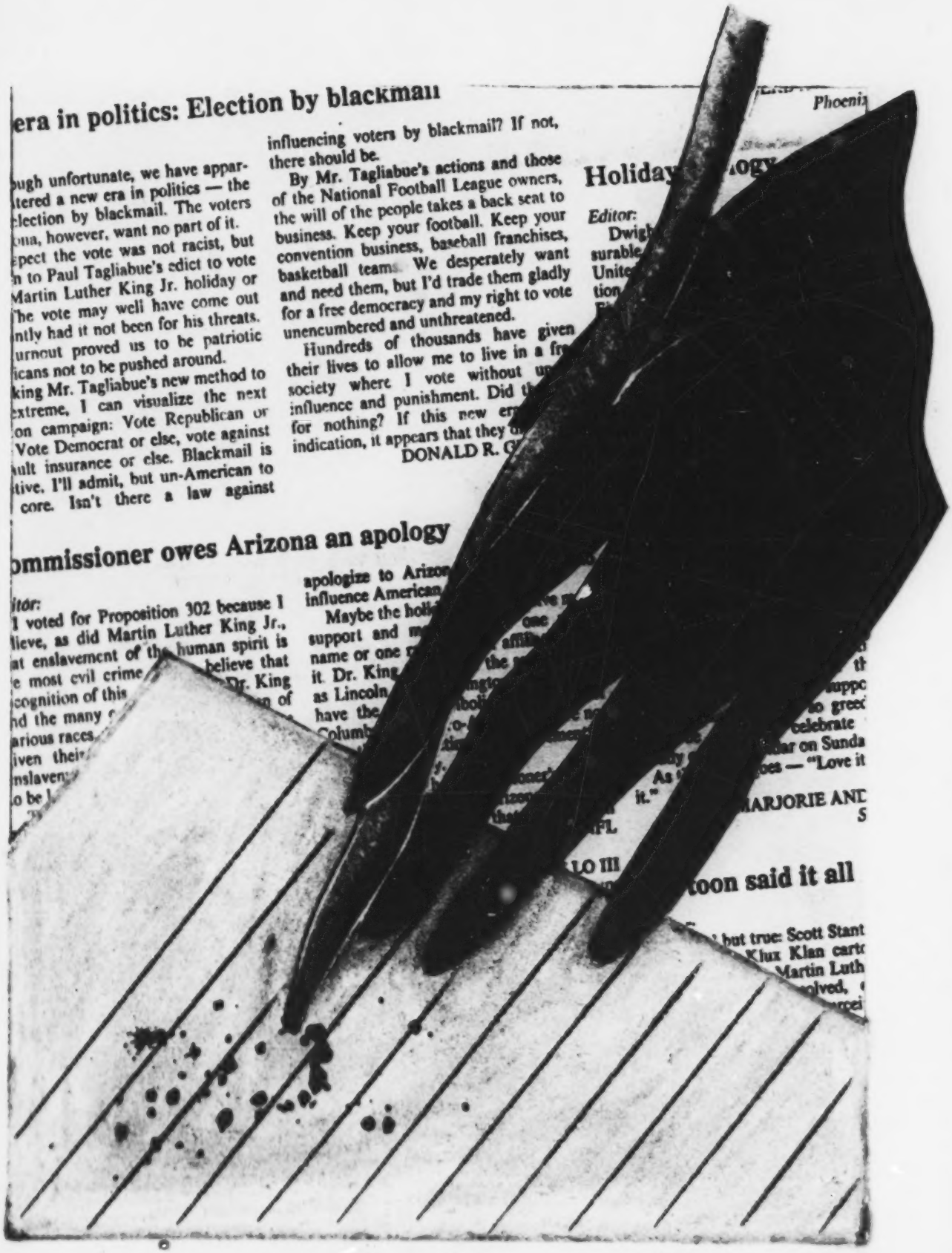
At this point, the reader may protest, "But that is not true of me! I am open and receptive to the unique understanding that each student brings to my classroom." That is admirable, but the difficulty is in convincing students that you are different from the memorize–and–recite teachers of their past. It's a case of guilt by association.

I begin every writing class by discussing the very foundation of writing, the writing situation. We identify the four components of the writing situation: writer, reader, occasion, and purpose. We talk about the many roles each person plays in their own life and how the role we find ourselves in at any given moment determines the style and form of communication, whether oral or written.

I use a series of assignments that challenge my students to don a mask, assume another identity, or zero in on one particular role they play in their lives to see how that persona affects their writing. For example, very early in the semester when we are working with the paragraph as a unit of writing, I ask my students to write a paragraph in which they tell a lie to a specific reader. The results are various and entertaining. I have heard from my students why they were unable to complete their assignment for my class, from taxpayers why they cannot appear for an audit, from employees why they cannot come to work, from spouses—the list is endless.

But as soon as I assign a five-paragraph essay or some other mundane and predictable assignment, students revert to their old conditioning. They begin to psych me out, to look for topics they think will appeal to me and result in a high grade. The problem seems to worsen when we approach persuasive writing. The prospect of expressing an original opinion is very intimidating to students whose opinions have not been sought and valued by teachers, family, and friends in the past.

The best way I have found to get students to write what they are genuinely interested in writing and to say what they really mean is to coax or, more correctly, to send writing out of the classroom. I do this by requiring each student to write a persuasive letter to the editor or a letter to a legislator, organizational leader, or other person in a position to make a change the student feels is important. For example, during the Spring semester of 1990, one of



era in politics: Election by blackmail

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influencing voters by blackmail? If not, there should be.

By Mr. Tagliabue's actions and those of the National Football League owners, the will of the people takes a back seat to business. Keep your football. Keep your convention business, baseball franchises, basketball teams. We desperately want and need them, but I'd trade them gladly for a free democracy and my right to vote unencumbered and unthreatened.

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my students wrote a letter to the baseball commissioner, criticizing his handling of the 1990 walk-out. Another student wrote his state senator about driver's licenses that flag persons under the drinking age. Yet another wrote her city manager about installing a four-way stop sign at an intersection near our campus where several accidents have resulted in serious injuries.

This is writing for reality, writing that has the potential to make a difference in the world and it makes a world of difference in the way students approach the writing assignment. Suddenly, I am no longer the reader to whom they are writing. I am, instead, the editor who helps them clarify the message they want to convey to their reader, a reader of their own choosing. They are learning at that point to identify the reader and to tailor their message and their rhetoric to that specific reader (or group of readers, in the case of a letter to the editor).

I have found that very few of my students have ever written a letter of this sort, so they need some solid direction. I ask them to gather sample letters, and I bring in letters I have written to demonstrate proper tone and format. Using my own letters, I can show them the whole process from inspiration, to draft, to final copy, to publication or response. (They also see that I practice what I teach.)

In most cases, students will do research as they prepare their letters. For example, many do not know the names and addresses of their state or federal legislators, judges, and so on, to whom they wish to write. They may also want to look up recent studies or case histories to substantiate their letters. With a little assistance from their instructor and reference librarian, students produce some very respectable research because they are aware these are ***real*** letters that will bear their signatures and, perhaps, be read by many people.

It is important to inform students that they can request their names be withheld when their letters are published, because some students will write on topics that are very personal and sensitive. One of my students, for instance, wrote a letter to the editor complaining about mandatory drug testing conducted by her employer. For obvious reasons, she did not want her name to appear with her letter.

In most cases, though, I encourage students to publish their opinions openly. I compare writing a letter to the editor or a letter to a legislator to the act of voting. We discuss the issue of civic responsibility and the importance of expressing one's views in a democratic society. This gives a real and valuable purpose to the writing they produce in my class.

Students turn in the final drafts of their letters, typed and proofread with extreme care, in stamped, addressed envelopes. I ask for a photocopy, which I return to the student with my feedback. The originals go in the mail immediately after they are submitted to me.

Within a week, the letters to the editor begin to appear in the newspapers. This is a very exciting time, since most students have never before seen their name and writing in print. They scan the papers (a hidden benefit of this assignment) for their letters and their classmates' letters. Occasionally, a controversial letter will create a flurry of responses. One student received a packet of literature about our state's educational system from Eddie Basha after he read her letter to the editor. This feedback is infinitely more rewarding to students than a B+ and "nice work" at the bottom of an essay.

This type of assignment is applicable across the curriculum and would cause the same effect in sociology or biology that it does in English: to persuade students that what they learn inside the classroom is relevant outside the classroom as well. It opens lines of communication between instructor and students, and between students and the community. It teaches students one effective means of expressing their opinions and advocating change.

Often when I turn to the editorial page, I am gratified to find a letter written by a former student of mine. It is rewarding to know that when our students leave our classes, they take what we have given them out into the world.

Linda Evans holds an AA from Glendale Community College, a BA in English and a MA with emphasis in professional writing from Arizona State University, where she began teaching composition. She has taught for the Maricopa Community College District since 1986 and especially enjoys teaching creative writing and technical writing. She is the advisor for Rough Draft, *the Chandler-Gilbert Community College Center's creative writing magazine, and serves on the committee that designs the composition curriculum for the new Macintosh lab. She has written extensively on computers in education and is particularly interested in the computer as a writing tool. She divides her time among teaching, freelance writing, and raising her daughter.*

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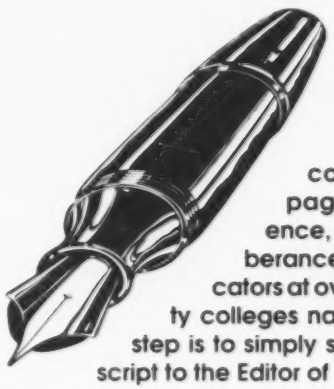

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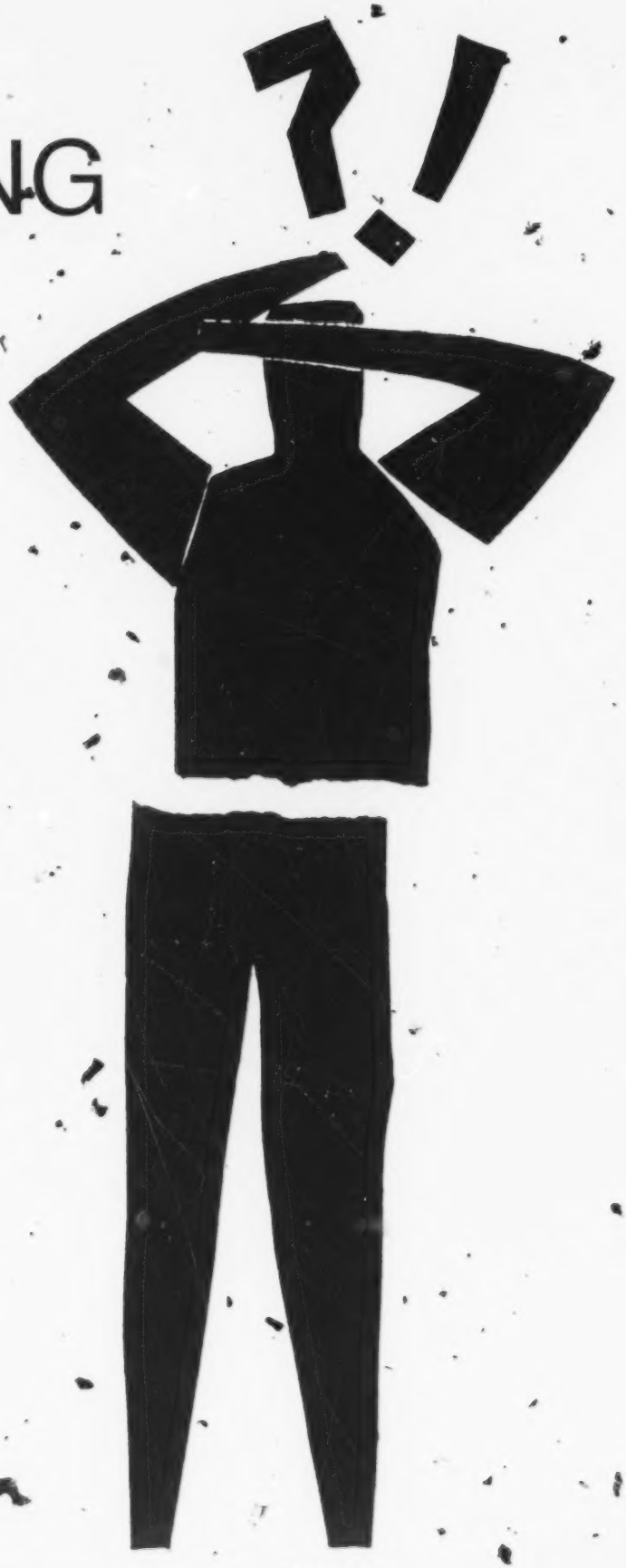
POINT OF VIEW

TEACHING ETHICS



Several years ago, I remember feeling overwhelmed while listening to the plight of a young patient of mine who had just become a new father. At a time when he should have been filled with pride and joy, he was in deep despair; his son had been born with physical complications that occurred at birth and high medical expenses ensued. For the child's six weeks of care, the medical bill exceeded $100,000.

Here was a young father whose annual income was less than $18,000. Tears came to my eyes as he told me that the doctor's bill alone was $18,000 - for two relatively minor surgical procedures that took less than four hours to perform.

Admittedly, health care in our nation is very expensive. The discrepancy between the doctor's earning capacities and those of my young patient was so great that the societal implications are extremely detrimental.

A study released in July 1990, by the U.S. Department of Economics, reveals that our nation's wealthy have become 7 percent wealthier in the last 15 years while poorer people have become 11 percent poorer. These figures are based on actual purchasing power. This trend is expected to continue; the gap between the haves and have-nots is widening even more.

In my opinion, the increasing lack of compassion of those who *have* and those who *do not have* is a major cause of this condition. That leads me to ask the following questions relating to the young father's experience: Was the doctor's fee justified? Did the doctor act within the law? Was the doctor unethical or immoral by charging a large fee? Is there a "right" or "wrong" answer?

The Hippocratic Oath clearly states that the doctor's compassionate views toward patients is first and foremost. It also states that the doctor should do no harm.

Did this doctor focus primarily on serving the father and his child? Was the doctor, despite the father's inability to pay, justified in charging the established fee of $18,000? What would you have done had you been the doctor?

Your response to these questions can give you direct feedback about your own approach to ethical behavior. The answers lie in how one views the outcome and its effect on everyone concerned: "Who won?"

Based upon the standard practices of the medical profession in establishing medical fees, the doctor did not violate any laws. However, that does not presuppose that the doctor's behavior was ethical. Part of the definition of ethics is the specific moral choices made by the individual in his or her relationship to others; a rationality towards the highest level of survival of the individual, the group, and humankind as a whole. Ethics are enforced, arising from conscience and intuition, based on a code of moral conduct adopted as a yardstick for the conduct of individuals, groups and society.

The American culture today is suffering from a deterioration of ethics in our society; in the home, in business, in professional sports, law enforcement, in government, even in religious circles! A doctor conditioned towards materialistic goals is not inclined towards ethical values. He or she is much more inclined to buy into the conclusions based strictly on acceptable practices subscribed to by the profession. Isn't this the basis of so many of society's ethical dilemmas today? Don't we have a multitude of examples? Just look at the names in the news: On Wall Street, 17 indictments in two years; Charles Keating, Marion Berry, Pete Rose, Jimmy and Tammy Bakker, to name only a few!

In an interview recently, Boston University's Olin scholar of applied ethics, Dr. Delattre, referred to a recent study of education in which over 30 percent of the students interviewed said they think cheating is an acceptable way to get ahead. The response from street gang members was, "The most important thing in life is money." Dr. Delattre summed it up by saying, "When people have that kind of poverty of imagination, when money is more important than who loves you, whose love you deserve, (then) you have social problems of great dimension" (Dillin, 1990). Indeed! Along with the corruption stemming from drugs, the situational ethics of the Sixties and Seventies have created a national backwash. Our leading universities are now including the study of ethics as part of the curriculum. Businesses are sending their managers back to school. Can ethics be learned in the classroom? I am not absolutely certain, but it's clearly an effort in the right direction. I strongly feel that individual ethics are the by-products of a person's on-going, diligent efforts to develop socially, intellectually, and spiritually. But there must also be a public demand for ethical thinking and behavior that will impact on every level of our society. The task for doing so will depend mightily on our schools and colleges to lead the way.

P.S. Several months after his son's birth, the young father died from a self-inflicted gun shot wound.

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Roy C. Amrein has been a member of the Maricopa Community Colleges Governing Board for the past ten years and is serving as the board's president in 1990. Roy Amrein, who attended Phoenix College, has been a chiropractor in the Valley for the past 31 years.

POINT OF VIEW

ROY AMREIN

POINT OF VIEW

HARVEY TURNER

Ethics, as I understand it, is an umbrella term meaning the systematic examination of the moral life. Ethics asks basically two questions: "What should a person do to live his or her life as humanely as possible?" and "What may one do to get the most out of life?" The first question identifies the ends, or final goals of life; the second searches for the means of attaining those ends.

Medical ethics is but one spoke in that umbrella. It is the application of moral principles and theories to the practical problems of medical decision making. These problems are many and varied. How should one approach a request to assist at an abortion? Should one agree to surrogate motherhood? Is suicide a morally viable option in terminal illness? Would the money spent on a single liver transplant be better spent on a prenatal clinic? In a society with finite resources, who should be responsible for rationing health care? Who should not be allowed into an intensive care unit?

The relative explosion of medical technology has resulted in ethical choices and decision making on a scale never dreamed of prior to this century. If all moral principles were harmoniously woven into the same logical fabric, ethics would be self-evident. The fact that these principles can come into serious conflict with each other on a case-by-case basis makes it imperative that, at the very least, those involved with patient care be aware of medical ethical guidelines.

On a day-to-day basis nurses are involved with patient care more closely than are other health-care providers. In addition to having a mandate from patients and their families to provide comfort and promote healing, they are also responsible for carrying out the orders of doctors. Conflicts can and do arise, especially when nurses are requested to carry out orders which they may find morally repugnant. In the light of today's medical ethics, it is important for them to examine their moral positions .

Several of the Maricopa Community Colleges train nurses. These men and women will soon find themselves in real-life situations that will call upon them to make decisions seriously affecting the lives of those in their care. Some of those decisions will involve morality more than medicine. Since their actions can influence life and death, they must understand why they have said "Yes," as well as "No."

Tidy answers to all problems exist in fairy tales, but not in this world. Still, real problems are pressing, and actions must be taken. Knowing something about medical ethics allows health-care givers to abandon prejudice for reason. This in turn allows them to justify their actions not only to others but, more importantly, to themselves. Conscience need not make cowards of us all if we feel that, given a set of circumstances, we are making the best possible decision.

Dr. Harvey Turner graduated from Columbia College in New York and attended medical school in Bern, Switzerland. A Fellow of the American College of Surgeons, he is board certified in thoracic and vascular surgery, despite his dream of becoming a symphony conductor. He has written medical columns for newspapers such as the Milwaukee Sentinel *and the* Portland Oregonian, *and is a contributing author to Ausman and Snyder's* Medical Library - Lawyer's Edition, *1990. This is Harvey Turner's first year with the Maricopa Community College District as a part-time instructor of ethics at GateWay Community College's School of Nursing.*

The matter of ethics in the community is a fairly recent historical phenomenon. It was traditionally defined as what was practical or pragmatic for a ruler or king. Machiavelli's Prince was not bound by any notion of what was right or wrong except as it led to his continued reign: that continuance transcended any moral qualms. More recently, however, society has imposed on its citizens the expectation that dealings with others ought to be defined by a code which is at times more extensive than the legal code. Yet the difficulty of this code is that since it is unwritten it may be ignored or violated at will. This is especially true in the field of business where the balance sheet reigns supreme. Do business ethics exist, or is one management guru correct when he contends there are no ethics but individual ethics (Drucker, 1981)?

For those who believe business ethics exist, the ethical problems faced by the business world fall into two general groups. First, there are business actions that cause social-ethical problems. This category of social-ethical problems includes pollution, toxic waste, nuclear contamination, ozone depletion, and shrinking forests and wetlands. The second group contains those problems caused by society in which business is a significant social agent. In this second group are such problems as poverty and discrimination.

Since ethics deals with those values a society should/could embrace, business ethics focuses on those values an organization should/could uphold. The traditional approach to business ethics was more of a creed that reflected seven basic values:

"1. protecting the interest of property owners by promoting efficiency, reducing goals, and thereby increasing profits;

2. encouraging respect for the right of private property;

3. refraining from anticompetetive practices;

4. guarding freedom of labor, owners, and consumers, and discouraging government interference;

5. honoring contracts and refraining from fraud or coercion;

6. developing personal honesty, responsibility and industriousness; and

7. encouraging private contributions to charity" (Cavanagh, 1976).

This traditional business creed has such profound historical, religious, and philosophical roots that it need not be questioned. But this business creed is being quietly challenged with a vengeance in some business circles, by a new breed of businesspeople, who openly admit their private decisions have some effect on the public (Bower, 1983).

Just as ethics provides the ground rules for how a person acts, business ethics provides the ground rules by which an organization should act. However, the business world has traditionally disavowed any responsibility it might have toward society. Fortunately, the primary focus of business ethics is changing as enlightened businesspeople find it is in their best interest to be ethical. Some have even suggested that business is not concerned with how ethical it should be but rather how much it can profit by being ethical.

What are some of the problems facing the business world that are business ethical problems? They include the following:

"1. CONSUMERISM - deceptive advertising, pricing policies, product quality, safety, and issues of fraud;

2. RESOURCE USE/ENVIRONMENT - pollution and waste of scarce resources through efficient/frivolous use;

3. LABOR/INDUSTRIAL DEMOCRACY - job safety, wages, worker welfare, pensions, job security, meaningful work, the export of jobs abroad, and the codetermination of economic structure by workers and management;

4. ACCOUNTABILITY TO SHAREHOLDERS - profits, growth, disclosure, and shareholders' voice in corporate growth;

5. POVERTY/SOCIAL INEQUALITY - obsolescence of urban capital, urban poverty, plant locations/abandonment, profiteering, transfer pricing, technology transfer, and job creation;

6. PERVERSION OF THE PUBLIC PURPOSE - bribery, fraud, tax evasion, misallocation of resources, and exploitive development; and

7. EQUAL OPPORTUNITY/COMPENSATION - social discrimination based on race, creed, sex, handicap, etc." (Sethi, 1987).

How can these problems be solved? The primary focus of business ethics is to change the rules of the game by which business institutions in particular, and society in general, are governed.

How soon can these problems be solved? Business ethics is not a quick fix. It is a long historical process of social change. Unlike individual ethics, business ethics problems involve the responsibilities of several individuals and institutions over a period of several years, several generations or even several lifetimes.

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Edd Welsh has taught Business Law and the Legal Environment of Business at Phoenix College since 1981 when he came to the Maricopa Community College District. After earning a BS in Business from Arizona State University, he worked in accounting, marketing, and graphic arts, and later returned to A.S.U. to earn his JD in 1981. He has also completed most of the MBA program. He is a practicing attorney in the areas of Contract Law, Employment Discrimination, and general business areas. Edd Welsh is married and has one son who is attending Creighton University.

POINT OF VIEW

EDD WELSH

Increasing the Effectiveness of Part-Time Faculty

John Lampignano

The Maricopa Community College District relies heavily on part-time instructors. Part-timers provide a means for enriching our programs and course offerings by bringing the latest skills from the field to the classroom. However, teaching is more than a simple sharing of expertise. Teaching requires unique skills. Ensuring part-timers the opportunity to develop teaching skills so students receive the best education possible is incumbent upon the institution.

Our heavy dependency on part-time faculty is caused by two factors: 1) insufficient full-time faculty to teach courses offered day and evening, and 2) a need for fresh concepts and techniques that part-time faculty bring to the classroom and department. To maintain currency in our specialty courses requires that we use experts working in the field. Part-timers have the first-hand knowledge and experience which is critical for our students. For example, in the medical field, advancements in technology require experts in the field to bring these issues into the classroom.

The process of organizing lectures, preparing visual aids, soliciting classroom participation, feedback, and assessment may become barriers for the part-time instructor. In the minds of many non-educators, teaching is an informal process of sharing information with a group of willing and equally prepared students. Professional educators, for the most part, understand the dynamic nature of teaching with its varied interactions, modes of delivery, and the other unpredictable variables that give us daily challenges. For the underprepared part-time instructor, the classroom can become a confusing battleground. Along with the challenge of teaching, there are attendance and grade rosters to submit, tests to write and correct, visual aids to develop, and student problems to resolve.

Beatrice Davis stated in an October, 1987, *Innovation Abstracts*, "Part-time faculty in two-year colleges have been characterized in the literature as second-class citizens and stepchildren." Indeed, without the benefit of office space, part-timers often become "phantom faculty" who teach a class and then disappear from campus. Staff development activities, division meetings, and in-service sessions are held at times that normally do not allow for part-timers' participation. The majority of part-time faculty have other jobs which serve as their primary employment and main focus of energy.

The Phoenix College Staff Development Office, in cooperation with the Bristol Business School in Bristol, England, administered a questionnaire to part-time faculty from four community colleges and three four-year colleges. In Kathie Driscoll's executive summary (August, 1989) of the survey findings of the community college sample, only three topics are listed as high priorities for professional development activities for part-time faculty. They include: 1) teaching material development; 2) subject content development; and 3) course design. One conclusion drawn from the survey is that part-time faculty want continuation of orientation with more concrete support from departments in the areas of syllabus development, course objective development, and outcome identification.

A district-wide training and mentoring program for part-time faculty can provide the tools for excellence in the classroom.

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Lesson preparation, visual aids, questioning techniques, discipline issues, student rights, and test writing would be a few topics presented in this program. The logistics of the program would be arranged around the availability of the participants. Summer, evening, or Saturday sessions would be possible options, and all part-time faculty would be required to attend as a condition of employment.

A series of lectures and workshops would be taught by content professionals. Teachers, administrators, and outside experts would be recruited for various sessions. Since the concepts of instruction are universal, these classes should be made available to all part-time faculty, regardless of their disciplines. To provide continuity, the participants would agree to attend all of the sessions during the training program.

Frequent evaluation and review of the program would be needed to keep the workshops fresh. To prevent stagnation, the format and design of the workshops would be examined often. Ownership of the workshops must be dispersed among a reasonable number of individuals on each campus, to prevent the creation of a monopoly that would prevent needed changes in their format.

Professional-growth activities for part-time faculty have been and are being held at various campuses in our district. Under the direction of Kathie Driscoll, a series of classes and workshops were held for part-time instructors at Phoenix College. Many of the issues and concepts mentioned in this article were addressed in that program. Other orientation programs are being organized and held at each of the district campuses.

The Health Science Division at GateWay Community College has held yearly in-service workshops for its full- and part-time faculty. Over the past three years, topics on media production, teaching objectives, assessment, and clinical evaluation have been discussed at these workshops. They provide not only an opportunity to share information, but also a forum for full- and part-time faculty to meet and share ideas and promote a sense of cohesion.

Staff development of part-time faculty is becoming a national issue. A program is operating at Santa Fe Community College in New Mexico to update its faculty. Both full- and part-time faculty are brought together each semester for a "Faculty Forum," an unstructured and open-ended meeting that allows faculty to share ideas, concepts, and general information with each other. It has been reported that these informal forums have created a more cohesive bond among the faculty.

The Miami-Dade Community College District has developed a very assertive proposal to increase the effectiveness of all the faculty. By enhancing the skills of the faculty through a process of evaluation, peer-mentoring, and continuing education, the district hopes to enhance student learning.

A first step is to investigate the orientation programs currently being offered at each campus. The framework for a part-time faculty training program may already be in existence. Second, incentives for part-time faculty to complete a training program must be examined. In the Miami-Dade proposal, promotions and advancement on the salary schedule are incentives for their full-time faculty to participate. We need to provide incentives for part-time faculty to fit staff development activities into their schedule. Finally, we need input from the part-time faculty regarding their training needs. They will provide us with direction in the development of the program.

Maricopa Community Colleges has the opportunity to be the largest community college district in the country. With size comes the responsibility of providing the highest quality of training and education. The faculty serve as a valuable link with the community. When faculty are better prepared for the classroom, the students emerging from these classrooms are better prepared to serve the community.

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John P. Lampignano has been a faculty member of GateWay Community College since 1982, in the Medical Radiography program. A graduate of the same program in 1978, he went on to complete an education degree at Weber State College. After teaching in the public school system in Ogden, Utah, he returned to Phoenix to teach in the Medical Radiography program. In 1988, he was named as the Outstanding Faculty at GWCC.

Since that time, he has completed a MEd in Educational Technology at Arizona State University. He has worked with Project HOPE in Kingston, Jamaica (Summers, 1984-88) in developing a new curriculum in radiography for the University of the West Indies.

Why Affects How

Continued from page 15

lege is the question of adaptation. Do instructors conform to the students' expectations or do they work to change their motivational orientations? One instructor who allowed a participant observer in her class was respected by both students and colleagues as an excellent teacher.

The class was composed mainly of nursing students who were, by and large, Requirement Meeters. The first exam consisted mostly of multiple choice questions with one essay question and a few short answer questions. When the instructor returned the test and was going over the answers, students accepted the grading of the multiple choice questions without argument. However, they fought bitterly with the instructor for fractions of points for their short answers and essay. The hostility of the exchange caused the instructor never to include short answer and essay questions again. She adapted to the Requirement Meeters by requiring only bitting of information; the Requirement Meeters were not forced to adapt.

The challenge in recognizing the different motivations of students is to meet students where they are, to know what they expect, and to work with them to change those expectations. Thus, students leaving the Maricopa Community Colleges will have assimilated literacy and critical thinking skills essential for the rest of their lives.

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Virginia Stahl is Associate Dean of Instruction at Scottsdale Community College. She began working in the Maricopa Community Colleges in 1984 as Instructional Services Coordinator in the Office of the Vice Chancellor for Educational Development. After receiving her bachelor's degree in English at Illinois State University, Virginia Stahl taught in high school and community colleges in Illinois and Arkansas. She received her master's degree from Arizona State University in 1982, and is currently a doctoral candidate at Arizona State University.

Electronic Forum

Continued from page 21

a topic of much debate on the forums. Although numerous students have complained, most acknowledge that resources are finite and a fee would be justified.

As "Pixie Dust" (entry #35867 from August 30, 1990) says, "When I first came to GCC, I was completely computer illiterate. Now, I can use both the Mac and the IBM compatible for writing papers and graphing. That may not seem like a big deal to some, but it has helped me a lot in many of my classes. I have also made friends through the forum, friends I would hate to lose. Yet, if they discontinue the forum, lose them I would because this is the only link I have with them....We all use the same font on this computer but our feelings and personalities come out in what we write and how we write it. Some forumers are not very talkative in person but bloom on the computer....most of the forumers wouldn't mind paying a [user] fee as long as it's reasonable."

When the dust settles over the fee issue, one truth will remain regarding electronic journals and public forums. Community colleges have encountered a resource that improves a number of student skills and may help them stay in school, linking them to a brighter future.

Cyndi Greening is a staff writer for Vision. *As a freelance writer, she has published numerous articles on writing, electronic communication, desktop publishing, and electronic design. She completed her undergraduate work at the University of Wisconsin at Eau Claire in Telecommunications and Writing. She teaches courses in writing, desktop publishing, and advertising arts.*

Writer's Guidelines

Vision is the bi-annual journal of the Maricopa Community Colleges, dedicated to all aspects of teaching and learning. Although distributed nationally, *Vision* is written and reviewed by the faculty and staff of the colleges and centers in the Maricopa Community College District. *Vision* is a 24 to 40 page magazine-style publication.

EDITORIAL PHILOSOPHY: *Vision* provides a forum for faculty and staff to exchange information about effective teaching and learning strategies. Articles for practical application, as well as more theoretical treatments of educational issues, are encouraged. *Vision* reflects the tremendous diversity of our district's collegiate communities and our unified commitment to excellence in education.

CONTENT AND AUDIENCE: Faculty and staff are encouraged to submit articles on teaching, learning, and classroom research activities across the curriculum at the community college level. Articles may be research- based or result from practical experience in the classroom. The primary readers of *Vision* are employees of the Maricopa Community Colleges; however, the journal is distributed nationally, so all articles should be appropriate for anyone involved in higher education. The language of all articles should also be accessible to individuals outside the author's discipline.

STYLE AND STANDARDS: Manuscripts should be typewritten and double-spaced on 81/2 x 11 inch paper. The author's name, title, professional affiliation, complete address and phone number should be included in a cover letter. Since the review process is anonymous (see below), the manuscript itself must not identify the author or any affiliation in any way. Manuscripts should be between 500 and 2500 words in length.

The article's thesis must be substantiated by current references from the literature and/or the author's own evidence. Manuscripts should be of a scholarly nature, but written in a style which is easily accessible by college faculty and staff regardless of discipline. The title should catch the readers' interest and reflect the article's content. The division of the manuscript into a few major sections by meaningful two- to four-word subheadings is also encouraged.

The *Publication Manual of the American Psychological Association* (3rd edition) is the guide used for style and format. Any references included in the body of the text should be cited by author and date, e.g., (Rodgers, 1986). An alphabetical reference list, containing complete bibliographic information for all references and conforming to the format specified by APA, should follow the article. Standards for punctuation, abbreviations, and capitalization should also be in accordance with the APA manual.

REVIEW PROCESS: Manuscripts are anonymously reviewed by members of the journal's editorial board and discipline reviewers on the basis of content and style relative to the journal's statement of purpose. On the basis of this review, each manuscript is either accepted for publication in a future issue of the journal, accepted with minor/major revisions (publication is contingent on the author's acceptable revision of the manuscript), or not accepted.

When published, all articles will include a biographical note about the author of 100 words or less. At the discretion of the editorial board, graphics will be created for some articles to enhance the visual aesthetics of the journal.

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